Bengal Secretariat Library Copy
To be returned when done with

IX ~~XP~~ / 140

IX / 140

REPORT

ON THE

BENGAL CIVIL FUND.

BY

SAMUEL BROWN, F.S.S.,
ACTUARY OF THE GUARDIAN ASSURANCE COMPANY,
11, LOMBARD STREET, LONDON.

CALCUTTA:
O. T. CUTTER, MILITARY ORPHAN PRESS.
1865.

REPORT AND VALUATION

TO 30TH APRIL 1863,

BY

SAMUEL BROWN, F. S. S.,

ACTUARY OF THE GUARDIAN ASSURANCE COMPANY.

INDEX TO REPORT.

Paras.

1, 2. Subjects specially referred to the Actuary.

3. Report of Mr. Monteath.

4. Other documents and nominal list of subscribers required.

5. Heads of enquiry, new data, and the methods of valuation.

7. Previous Tables of mortality, Mr. Davies' and Mr. Neison's.

8. Mortality amongst retired members, Neison.

Statistics from original data now furnished.

9. Original data in documents K and P.

10. New Table of mortality deduced therefrom, Bengal Civil Service.

11. Abstract A.—Comparison of rates of mortality, Indian Civil Service.

12. Abstract B.—Mr. Prinsep's Table of mortality, 1790 to 1841, years of service.

13. Results of ditto.—Comparison.

14. Experience of the Fund.—1850 to 1863, Documents L., M., N.

15. Mortality amongst annuitants.

16. Mortality amongst widows.

17. Marriages amongst widowers.

18. Mortality amongst children.

19. Mortality and marriage amongst members of the Fund.

20. Summary in quinquennial periods of age.

22. Do. active and retired.

23 to 25. Totals of bachelors, married men, and widowers.

26. Abstract C.—Comparisons of mortality, Bengal Civil Service.

27. Substitute for Joint Life Table.

29. Mortality amongst wives of members.

30. Abstract D.—Mortality amongst wives and widows in decennial periods of age.

31. Results of the above Table.

32. Wives who became widows.

33, 34. Abstract E.—Mortality amongst sons of members.

35. Abstract F.—Mortality rates amongst the daughters of members.

36. Abstract G.—Rate of marriage amongst unmarried daughters.

37. Abstract H —Proportion of bachelors marrying at different ages and corresponding ages of wives.

38. Discrepancy of age at date of first marriage.

39 to 42. Ages at which widows and children have been admitted at pensions.

Paras.

43. Difference in ages of wives of husbands living in 1850, and number of living children to each.

44. Abstract I.—Average ages of husband and wife both living and number of their children living.

45, 46. Abstract J.—Do. on 1st January 1863.

47. Proportion of children living to each father living.

48, 49. Difference of age between fathers and living children.

50. Abstract K.—Proportion of different classes to 100 total members living in 1853, 1858, and 1863.

51 to 56. Deductions from the above comparisons.

New Tables formed for the present valuation.

57 to 63. New Table of mortality, No. 17 (A), for Bengal Civil Service and mode of forming it.

64. Table No. 18 (A), D and N Columns.—Annuity at 5 per cent.

65. Abstract L.—Comparison with Mr. Davies' Table.

66. Table No. 19.—Value of reversionary pension of £300 to wives of living members.

67 to 69. Tables Nos. 20, 21, and 22.—Value of pensions to sons, and of pensions and marriage portion to daughters.

70. Tables Nos. 23 and 24.—Values of reversionary pensions to sons and daughters of living members, and of marriage portion to daughters.

71. Liabilities for future wives and children of unmarried members.

72. Table No. 25 (B).—Probability of a bachelor marrying at each age.

73. Do. No. 26 (B).—Value of contingent pension to the wife if a bachelor should marry hereafter.

74, 75. Tables No. 27, 28(B).—Values of Contingent pensions to families of bachelors who may marry hereafter, and mode of forming the Table.

76. New mode of estimating the value of members' contributions.

77 to 80. Mr. Davies' and Mr. Neison's method.

81. Average subscriptions increasing with age.

82. Abstracts M and N.—Total subscriptions and annual average for each class of members living 30th April 1863.

83. Table No. 28.—Average subscriptions at each age and in decennial periods of age.

84. Abstract O.—Summary of do.

85. Abstract P.—Members, proportion of each class living at mean ages.

86. Table No. 29.—Total subscriptions payable by the surviving members at each decennial age.

87 to 89. Table No. 20.—Values of subscriptions increasing with age, and formation of the Table.

90 to 92. Tables No. 31 (M) and 32 (M).—Probability of a married member dying or becoming a widower, and value of annuity at 5 per cent. deduced therefrom.

93. Abstract 2.—Comparisons of above with Mr. Davies' and the Carlisle Joint Life Tables for husband and wife.

Results and Comparisons of the present valuation to 30th April 1863.

Paras.

94. Question as to the rate of interest to be used in the valuation proposal of the Secretary of State for India of donation in lieu of additional interest.

95. Points referred for decision by the Government.

96. Reply ; 5 per cent. to be allowed on the whole balance of the Funds.

97. The transfer of Funds, from additional to ordinary, to be allowed to reckon in the 5 per cent. average.

98, 99. Five per cent. interest might, therefore, be assumed in the valuation..

100. As to the rate of exchange to be allowed on payments in England ; Rs. 10 to the pound.

101 a. Items of valuation.—Incumbent pensions.

102. Value of widows' Incumbent old rule pensions.

103. Ditto assigned since 1850.

104. Value of daughters' Incumbent pensions, Old rules.

105. Ditto assigned since 1850.

106. Value of sons' Incumbent pensions, Old rules.

107. Ditto of widows' Incumbent pensions, New rules.

108. Ditto of daughters' Incumbent pensions, New rules.

109. Ditto of daughters' marriage portion of £300, New rules.

110. Ditto of sons' Incumbent pensions till 21, New rules.

111. All the values of pensions at 5 per cent. compared with an 8 per cent. valuation.

112. Causes of difference between this valuation and that given in the accounts.

113. (1.)—The rate of Exchange.

114. (2.)—The proportion in which the values of the new rule pensions have to be increased to convert it into stock bearing 4 per cent. interest.

115. (3).—New proportion of new rule pensions in the 8 per cent. Fund.

116. Advantages of valuing at one rate of interest.

117. Difference between new and old valuation of Incumbent pensions.

118 b. Values of Contingent reversionary pensions.—Wives of living members on active service.

119. Ditto retired.

120. Comparison of the above with Mr. Davies' Tables.

121. Values of Contingent reversionary pensions to daughters of living members.

122. Values of Contingent reversionary pensions to sons of living members, active and retired.

123. Comparison of total values of Contingent pensions at 5 and 8 per cent.

124. c. Value of liabilities for future children of existing marriages.—Mr. Davies' estimate.

125. New estimate from the present observations.

126. Application of the Tables to find the total value.

127. d. Value of Contingent reversionary benefits to subsequent wives and families of present married members.

Paras.

128, 129. Abstract R.—Proportion of widowers who re-marry to the number of living married members.

130, 131. Value of Contingent pensions to subsequent wives and families approximated by the above proportion, method of valuing.

132, 134. Abstract S.—Value of benefits contingent on subsequent marriages.

135 to 137. e. Value of Contingent benefits to wives and children of bachelors and widowers if they should marry hereafter.

138. f. Value of total liabilities compared with the accounts.

139. Valuation of Assets.

140. g. Realized capital divided into appropriated by the new valuation and unappropriated.

141 to 143. h. Value of members' subscriptions.

144, 145. Comparison of ditto at 8, 4, and 5 per cent.

146. i. Value of the Government donation in lieu of interest.

147. j. Value of the Government donation on Funds proposed to be transferred from "additional" to "ordinary" branch.

148 k. Value of Annual Government donation sanctioned 1808.

149 to 152 l. m. n. Small items of valuation, composition payments, minimum of ⅓rd of pensions, fines and disparity fines, and payments to make up Rs. 25,000 on retirement.

153. Suggestions for estimating these items in future.

154. Value of establishment charges.

155. Valuation Balance Sheet, 30th April 1863.

156. Questions on which the Actuary is requested to report specially.

157 I. Application for the transfer of Rs. 8,95,744 of Capital from the "Additional" to the "Ordinary" Fund.

158 to 164. Correspondence on this subject between the Managers of the Fund and the Government.

165. Conclusion that the Secretary of State for India concurs in the principle on which the application is founded.

166, 167. Deficit found by Mr. Davies, but subsequently corrected by special valuation by the Secretary.

168 to 170. Just and reasonable to allow the excess of receipts over payments in the additional branch to be applied first to make up the deficit.

171 to 173. Deficits on ordinary branch at the three valuations, 1853, 1858, 1863.

174. Table showing the progress of the ordinary branch, if the deficit in 1850 had been made up from the additional branch.

175, 176. No deficit but a surplus would have appeared at each valuation.

177. Suggested compromise for the 5 years' average donation.

178. II. Proposal of the Secretary of State for India to allow a fixed annual donation in lieu of interest on the average for the last five years, the balance of the funds to stand at 5 per cent. interest, and the rate of exchange to be as annually fixed for transactions with the British Exchequer.

179. Varying proportions of the "Original" to the "Additional" Branch.

Paras.

180. Rough averages for the conversion of values from one to another rate of interest.

181. One rate of interest very desirable.

182. The Committee agree in the change if certain doubtful points admitted.

183. Points in question submitted to the Secretary of State for India.

184. These questions specifically admitted by Government.

185. On the whole advisable to accept the proposition.

186. Comparison of the results of the change by 5 per cent. and 8 per cent. valuation.

187. Larger surplus in the Ordinary Branch by the new arrangement.

188. Comparison of results in the "Additional" Branch.

189. On the whole advantages in favor of the change proposed.

190, 191. One objection to be considered, that if the number of members of the Civil Service be increased, and the donation remain fixed, the present members' interest might be affected.

192, 193. The Government donation assumed to be computed on the average of the Capital standing in the "Ordinary" Branch on 30th April in the five years 1853 to 1858.

194. III. Mr. Beadon's proposal to reduce the rate of subscription from 2½ per cent. ordinary and 2 per cent. additional, to 1½ per cent. ordinary and 1 per cent. additional.

196. In present condition of the Fund, this proposition not recommended at present.

197. If the increase of subscriptions proposed in 1852 had been carried out, the Fund might now be solvent.

198. Proportion of deficit to be borne by present members.

199. Subscription of new members to be raised.

200. No hope for reduction of rates at present.

201 to 203. General conclusions.

IX 142

THIRD REPORT

ON THE

BENGAL CIVIL FUND.

AS TO THE VALUATION ON THE 30TH APRIL, 1868.

To

THE MANAGERS OF THE BENGAL CIVIL FUND.

GENTLEMEN,

1. I much regret that the completion of reports on some of the other Indian Funds, which have been long in hand, and the pressure of some important Valuations have delayed this Report to a much later date than I intended.

2. The following letters from Mr. Mackenzie, the Honorary Secretary, indicate the points of reference, to which I have given attention in the following Report, and which, from their importance and bearing on the future prosperity of the Fund, have had my very serious attention.

"To

"S. BROWN, ESQUIRE,

Actuary, Guardian Assurance Office.

"LONDON.

"DEAR SIR,

"I am directed by the Managers of the Bengal Civil Fund to forward to you for report the results of the valuation of the assets and liabilities of the Fund for the quinquennial period 1863-1868, and to request that you will favor them at your earliest convenience with an opinion on certain proposals hereinafter detailed, which have arisen out of this valuation.

(2). "To enable you fully to understand the altered position of the Fund, as shewn by the valuations, it is necessary briefly to recapitulate the main incidents in its financial history since the date of the last reference made to you in December, 1865.

(3). (A). "The transfer of Rs. 8,95,744 from the Additional to the Ordinary Branch discussed by you in paragraphs 157 seq. of your first Report has been carried out and appears in the accounts of the year 1866-67.

(B). "The Securities in which the Additional Capital of the Fund was invested have been sold and the whole Additional Capital is now permitted to stand in the Books of Government as a debt bearing interest at 5 per cent., the Ordinary Capital remaining as before at 8 per cent.

"The difference between the price paid for the Securities and that at which they were sold, showed a gain to the Fund of Rs. 2,38,247.

(C). "Since 1867, the rate of exchange has been 10 rupees per Pound Sterling in lieu of 10·24 Rs.

(4). "Throughout the whole of the quinquennial period, the pension payments have been discharged in the proportions of 53 per cent. from the Ordinary Branch and 47 per cent. from the Additional, the subscriptions being carried to credit as heretofore, *i. e.*, the general 2½ per cent. rate going to Ordinary and the rest to Additional.

(5). "The effect of the above measures has apparently been to convert the deficit which was so long a main feature in the valuations into a considerable surplus.

(6). "Annexure 3 exhibits a series of valuations from 1863 to date, framed on the principle of making the Ordinary Branch bear a share of the liabilities exactly equal to its means, the deficit or surplus for each year being thrown into the Additional Branch.

"The multipliers used to effect this adjustment have been for each of the years as follows:—

	Ordinary.	Additional.
1863,...	·614774	·385226
1865,.....	·6421492	·3578508
1866, ...	·6497553	·3502447
1867,..... ...	·6949155	·3050845
1868,.....	·7052392	·2947608

and were obtained in the manner shown in Annexure 5.

(7). "It is quite clear to the Managers from these figures that while the income of the Ordinary Branch is maintained at the present rate, a larger proportion of the pension payments should be charged to it, and after full consideration they have come to the conclusion that the best way will be periodically to regulate the proportion in which the charges are debited by the proportion obtained from valuations made on the abovementioned principle. This will prevent any undue accumulation of funds bearing privileged interest and will thus protect the interest of Government.

"In coming to this conclusion, the Managers gave full consideration to the alternative of fixing arbitrarily a proportion of pension payments and then regulating the income of each branch, according to its liabilities calculated on this principle. The arbitrary character of any such established proportion was, however, considered to be an objection. Mr. Davies calculated the proportion to be 53 and 47 per cent., the Managers in 1850 adopted ⅔ and ⅓; subsequently changing it (owing to the impoverished state of the Ordinary Branch) to 53 and 47 per cent. In your second Report, you propose a proportion of 60 and 40 per cent.

"The only satisfactory way of fixing the real proportion would be to maintain statistics showing the private property of pensioners in view to ascertaining what proportion of their pensions comes under the original charitable object of the Fund. Such statistics would, as the Managers believe, show a very different

proportion from that deduced in 1850, owing to the accumulation of private property by Members of the Service being on the average much less now than formerly. But it is obviously impossible to maintain such statistics and on the whole, therefore, the Managers have determined to follow the principle sketched above whereby the privileged branch of the Fund will be made to defray the full proportion of liabilities which may be warranted by its assets.

"The average of the proportions shown by the valuations of the preceding 5 years will probably be a safe basis on which to calculate the proportion in which pension payments are to be actually charged during the following quinquennial period.

"The Managers have accordingly resolved for the present to raise the proportion of pension payments chargeable to the Ordinary Branch from 53 to 66 per cent., the latter figure being the average of the yearly proportions given above, and they propose to alter this proportion periodically hereafter on the same principle.

(8). "On this principle, as well as upon the valuations themselves, you are requested to give an opinion.

(9). "Assuming however that the valuations are in the main correct, the Managers have proposed to the Service to increase the benefits of the Fund subject to the result of the present reference to you.

(10). (A). "The first step which it is proposed to take is, to relieve Annuitant Subscribers as far as possible from further payments. The enhanced cost of living in Europe renders this very desirable. At the same time it is necessary that the Fund Office should be kept fully informed of changes in the families of Subscribers, and nothing will secure this better than the retention of a nominal payment. It is intended therefore to permit Annuitants to compound at one-tenth of present rates, and to refund to those who have already compounded nine-tenths of the amount which they would have to pay, were they to compound *now* for their existing liabilities. For each addition to their families, Annuitants would be allowed to compound at the one-tenth rates.

(11). "In connection with this proposal it is perhaps advisable to revise the table of fines for inequality of age on marriage. An Annuitant marrying a young wife, for whom he has never paid any subscription during service, and bringing her on the Fund by a nominal composition payment, is not entitled to the benefit of the very favorable fine table at present in force. The Managers would wish you to frame a table in which the fine is more commensurate to the actual risk.

(12). (B) "It is next proposed to raise the marriage portion of daughters to £500.

(13). (C.) "Further it is proposed to give to each son on his attaining the age of 21 years, the sum of £500. The Managers also wish to be empowered to advance this sum together with the annual pension up to the age of 21 at any time between the ages of 16 and 21 on being satisfied that the recipient has been finally settled in any employment or profession.

(14). "In the case of the families of Subscribers killed in the mutiny, the Funds will have to bear the difference between present benefits and those now proposed.

(15). "You are requested to consider and report on the financial effect of these proposals, seriatim, and collectively, and to advise the Managers to what extent they may safely carry them out. In regard to the first, I am to beg that you will, in anticipation of your full report, advise the Managers whether they cannot give effect to it at once. They are anxious that it should come into operation on the 1st April, 1869.

"The formation of any new tables that may appear to be necessary and the preparation of your full report on the questions now submitted to you may be taken up after your reply on the first proposition. (A)

(16). "I am directed to forward for your information a set of new Rules as to Leave and Deputation allowance, the operation of which will perhaps ultimately render a revision of the subscription Tables necessary. The new Rules give somewhat larger allowances to absentees in England, and also more liberal act-

ing allowances to those in India who officiate for them during their absence; but on the other hand, the allowances drawn in India are reduced by the greater proportion of acting (in lieu of substantive) appointments. On the whole, the new rules will probably increase the aggregate income of the Fund and all that seems necessary for the present is to watch the effect. The new Rules came into force from 1st July, 1868.

"I have the honor to be,

&c., &c.,

A. MACKENZIE,

"*Honorary Secretary.*"

BENGAL CIVIL FUND.
The 19th January, 1869.

Papers forwarded under separate cover.

1. Accounts for 1867-68.
2. Quinquennial Valuation.
3. Valuations on Mr. Monteath's principles.
4. Details of ditto.
5. Mr. Monteath's mode of producing multipliers used in the above valuations.
6. List of Mutiny Pensioners.
7. New Furlough Rules.
8. Valuation details, 1866, 1867, 1868.
9. History of the Fund.
10. Memorandum and remarks on First Report.
11. First Report of the Actuary.
12. Second ditto.
13. Notice of March 1869, Meeting.
14. Proceedings of the Bengal Civil Fund, 1863 to 1869.
15. Copy of the Family Register.
16. Copy of the Incumbent Register.
17. Copy of the Register of deaths and retirements, &c
18. Copy of the Gradation List of January, 1869.
19. Nominal List of Subscribers in and out of the Service as it stood on 1st April, 1868.

"To

"S. BROWN, ESQUIRE,

"*Actuary, Guardian Assurance Office*

"LONDON.

"DEAR SIR,

"In continuation of my letter of the 19th Ultimo, I am directed by the Managers to request you further to consider and report on the financial effect of the two following proposals and advise them whether the surplus funds will not bear the grant of these benefits.

1st. "As to the effect financially of providing some additional benefits for children left absolute orphans, by the death of their mother as well as father; that children, in the above circumstance, should be allowed 50 per cent. more than those whose mothers are alive up to the age of 18 years; or, if that be thought too much, to raise the allowance as above with the proviso that the allowance for any one child should never exceed £120.

2nd. "That the allowance drawn by a boy should not cease during his lifetime in case of his being wholly incapacitated mentally or physically from earning his living.

I have the honor to be,
&c., &c.,
A. MACKENZIE,
"*Honorary Secretary.*"

BENGAL CIVIL FUND,
The 16*th February*, 1869.

3. On first examining the Registers and Lists 15 to 19, referred to in letter A, I was in hopes that we might be able to bring down the Tables of Mortality, &c., amongst the Members, their wives and families, given in my first Report from the end of 1862 to 1868. Considerable time was occupied in extracting and classifying the facts. But though the numbers of Survivors amongst the Members in the Service agreed very nearly with the numbers at different ages as given in the last Valuation, the number of Retired Annuitants differed so much that, I conclude some of the dates of events have not been filled in. In order not further to delay the Report, it will be better to defer the completion of these Tables for a more favorable opportunity.

4. It will be advisable, however, in order to compare the actual position of the Fund at the different valuations to continue abstract K. (para. 50 in my First Report and para. 10 in my Second Report) by adding the number of Members, their wives and children, in each class, living on 30th April, 1868, and the proportion to the total number of Members.

Abstract K.—(*First Report, Page* 19, *Second Report, Page* 6),—Continued.

Bengal Civil Fund.

Table showing to every 100 *Members, existing at each of the five Valuations,* 1853, 1858, 1863, 1865 *and* 1868, *the proportion living in each Class, and in each quinquennial period of age below* 25, *and in each decennial period of age above* 25.

	1868.		1865.	1863.	1858.	1853.
	No.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Pensioners' Widows—						
New Rules ...	77	10·48	8·59	8·10	4·81	1·12
Old Rules ...	60	8 16	8 73	9·43	11·60	13·57
Both ...	137	18 61	17·31	17·53	16·41	14·69
Sons—						
New Rules ...	104	14·15	12·88	9·72	4·97	1·12
Old Rules ...	.	.	·69	·76	3·65	8·18
Both .	104	14·15	13·57	10·46	8·62	9·30
Daughters—						
New Rules ...	111	15 10	11·91	10·75	8 29	2·42
Old Rules ...	42	5·71	6·37	7·37	9·78	14·31
Both ...	153	20 81	18 28	18·12	18·07	16 73
Active Married Members	305	41·50	41·27	42·42	44·77	47·59
Sons ...	429	58 36	57·34	58 04	71·46	83·66
Daughters ...	461	62 72	58·45	58·48	61·51	70 27
Retired Married Members	144	19·59	17·45	16·79	10·61	6·32
Sons ..	216	29 39	29·92	30·93	18 73	8 55
Daughters ...	267	36·33	33 79	33·14	18 57	8·92
Unmarried and Widowers without Children ...	286	38·91	41·27	40·80	44·60	46·10
Under Ages						
Pensioners' Widows, 20-25	1	·14	·14	·59	·17	...
25-35	22	2·99	2·63	2·21	2·15	2·42
35-45	25	3·40	3 88	5·01	3·98	2·60
45-55	34	4·63	3 60	2·80	3·48	4·83
55-65	23	3·13	3·74	4 27	4·64	3 90
65-75	25	3·40	2 77	2·36	1 66	·56
75-85	6	·82	·55	·29	·33	·37
- 87	1	·13	..	...	...	...
	137	18·64	17·31	17·53	16·41	14·68

		1868.		1865.	1863	1858.	1853.
		No.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Under Ages.							
Pensioners' Daughters,	0-5	4	·54	·55	1·18	·66	·19
	5-10	18	2·45	1·80	2·06	1·33	2·23
	10-15	24	3 26	2·77	1 91	3·15	2·97
	15-20	24	3·27	3 32	3 83	4·64	3·16
	20-25	24	3·27	3·74	3 54	2·65	4 46
	25-35	32	4·35	3·32	3·39	3 81	2 79
	35-45	18	2·45	2·22	1·77	1·49	·56
	45-55	7	95	·42	·29	·17	·19
	55-65	2	·27	·14	·15	·17	·18
		153	20·81	18·28	18 12	18·07	16·73
Sons	0-5	7	·95	2 08	1·47	1·16	·37
	5-10	31	4 22	4·02	3·09	1 33	1·30
	10-15	31	4 22	3·19	2 51	2 49	3·91
	15-20	31	4·22	3·74	2 80	3·48	3·16
	20-21	4	·54	·55	·59	·16	·56
		104	14·15	13 58	10·46	8·62	9·30
Under Ages.							
Active Married Members,	20-25	4	·54	2·22	2·50	2·16	1 86
	25-35	135	18 37	18·28	17·68	17 91	17·29
	35-45	130	17 69	16 62	16·20	12 77	19 71
	45-55	34	4 63	4·02	5 60	11 27	7·62
	55-65	2	·27	1 4	·44	·66	1·11
		305	41·50	41 28	42 12	44·77	47·59
Sons	0-5	181	24·62	24·38	23·87	24·54	33·28
	5-10	118	16 05	15 93	15·76	21 72	23·05
	10-15	82	11·16	10 80	12·08	15·59	16·92
	15-20	42	5 71	5·81	5·89	9 28	10·04
	20-21	6	·82	·42	·44	·33	·37
		429	58 36	57·35	58·04	71·46	83·66

Abstract K. (—*First Report, Page* 19, *Second Report, Page* 6),—Continued.

		1868.		1865.	1863	1858.	1853.
		No.	Per Cent.	Per Cent	Per Cent.	Per Cent.	Per Cent
Under Ages.							
Active Married Members' Daughters	0-5	187	25·44	26 18	25·19	22·38	24·36
	5-10	142	19·32	15 65	15 76	16·25	21·19
	10-15	73	9·93	9 97	10·46	12·60	15·43
	15-20	50	6·80	5 26	4·86	8 79	6 88
	20-25	8	1·09	1 39	2·06	1 16	1·86
	25-35	1	·14	..	·15	·33	·37
	35-45	...	...	...	...	...	·18
		461	62·72	58 45	58·48	61·51	70 27
Under Ages.							
Retired Married Members	25-35	2	·27	...	·29		...
	35-45	6	·82	·70	·74		·56
	45-55	29	3·95	6·78	8·40	6·80	4 28
	55-65	88	11·97	8·31	6 48	2·82	1 11
	65-75	17	2·31	1·52	·88	·66	·37
	75-85	2	·27	·14		·33	...
		144	19 59	17·45	16·79	10·61	6·32
Sons	0-5						
	5-10	23	3·13	4·02	4·71	4 31	2 42
	10-15	42	5 71	6 93	6 63	5·97	2·04
	15-20	53	7 21	7 06	9·72	3 98	2·97
	20-21	82	11 16	9·97	8 84	4 14	1 12
		16	2·18	1·94	1·09	·33	...
		216	29 39	29 92	30 93	18 73	8·55

		1868.		1865.	1863.	1858.	1853.
		No.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Under Ages.							
Retired Married Members. Daughters	0-5	22	2·99	3 32	3·98	2·98	1·67
	5-10	35	4·76	4·71	4·71	3·65	1·86
	10-15	52	7·08	6 79	6·48	5·31	2·41
	15-20	52	7·08	6·92	9·28	3·32	1·30
	20-25	63	8·57	8 17	5·60	1·82	·93
	25-35	40	5 44	2 91	2 21	·83	·56
	35-45	2	·27	·55	·59	·66	·19
	45-55	1	·14	·42	29	...	...
		267	36·33	33·79	33·14	18·57	8 92
Unmarried Members' Active and Retired.	19-20	...	..	·14	...	2·32	...
	20-25	53	7·21	13·43	14 59	16 91	15·99
	25-35	164	22 31	18 01	16·20	16 42	17·85
	35-45	28	3·81	5·26	5·01	3·81	8·55
	45-55	15	2 04	1·80	3 24	4 81	3·53
	55-65	24	3 27	2·49	1·47	·33	·18
	65-75	2	·27	·14	·29	...	...
		286	38·91	41·27	40·80	44 60	46 10
Total Members	19-20	...	.	·14	...	2·32	...
	20-25	57	7·76	15 65	17·08	19·08	17·84
	25-35	302	41 09	36 29	34·17	34 33	35·13
	35 45	164	22 31	22·57	21·95	16 58	28 81
	45-55	78	10·61	12 61	17·23	22·88	15·43
	55-65	113	15·37	10 94	8 40	3·81	2·43
	65-75	19	2·59	1 52	1·17	·67	·37
	75-85	2	·27	·28	...	·33	...
		735	100·	100·	100·	100·	100

5. On examining this Abstract, it will be noticed that the total number of Members has increased in each 5 years, since 1853 from 538 to 603,679, and 735 respectively, or an increase of 65, 76 and 56 in each quinquennial period.

6. Reducing all the facts to the proportion of 100 Members, we observe that the proportion of Married Members in the Service has regularly diminished in each 5 years since 1853 from 47·59 to 41·50 per cent. ; being now nearly the same as at the last Valuation in 1865.

7. But the proportion of Retired Married Members has increased considerably in each period from 6·32 to 19·59 per cent. Taken in connection with the proposed reduction of subscriptions this is an important feature of the Table. The proportion of Unmarried Members and Widowers without children has diminished through each period from 46·10 in 1853 to 38 91 per cent. in 1868.

8. In regard to pensioners, the total number of Widows compared with the total number of Members has increased from 14 69 in 1853 to 18·64 per cent. in 1868, although at the last Valuation the proportion appeared to be nearly stationary with that of 1863. But the proportion under the Old Rules is now rapidly diminishing; those under the New Rules being to those under the Old Rules, as 18·48 to 8·16 whereas in 1865 the numbers were nearly equal in each.

9. There are now no Sons Pensioners under the Old Rules ; but the total number has increased relative to the total number of Members from 9·30 in 1852 to 14·15 per cent. in 1868.

10. Of Daughters, who are pensioners, however, nearly one-fourth part are still under the Old Rules, and the total since 1853 has increased from 16 73 to 20 81 per cent. of the total number of Members.

11. The proportion to total Members of the Sons of Married Members in the Service has diminished considerably since 1853 from 83 66 to 58·36 per cent. in 1868, although it now remains nearly the same as in 1863. But the proportion of Daughters has only diminished in about the same rate in which the Married Members on active service have also diminished.

12. Amongst the Retired Members, however, the liabilities for Sons and Daughters will be found to have increased considerably from 1853 to 1863. Since the latter date, the proportion of Sons has slightly diminished and that of Daughters increased about 10 per cent.

13. In the comparisons under ages, the largest proportion of Widows who are Pensioners appears to be between 45 and 55 years of age and there are also increasing numbers at the advanced ages of 65 and upwards, tending to show a somewhat diminished liability.

14. The same may be said of Daughters, who are pensioners, there being a general-

ly increasing proportion at the ages 25 and upwards. To a certain extent, the same observation applies to Sons who are pensioners, the proportion living between 10 and 20 years of age being greater now than at former periods of valuation.

15. Amongst Married Members in the service, an increasing proportion will be found living at ages under 45. The proportion of their living Sons remaining much the same as in 1863, but of their Daughters, the proportions generally show a larger relative number living under 10 years of age.

16. Of Retired Married Members, the proportions living at ages of 55 and upwards, have considerably increased at each of the successive Valuations, and their Sons above 15 years of age, and their Daughters above 20.

17. Amongst the Unmarried Members, a considerable increase will be observed in the proportion living between 25 and 35 years of age, when compared with the rates at the preceding Valuations.

18. Lastly the numbers at those ages will be found to influence the results for the total number of Members, the proportion living between 25 and 35 having increased from 34·17 per cent. in 1863 to 41·09 per cent. of the whole in 1868; whilst those between 20 and 25 have diminished from 17·08 per cent. to 7·76 per cent. in the same period.

19. These figures, together with the comparisons at the Valuation in 1865 given in the third column, will help to explain the progress and present position of the Fund and will throw some light on the differences to be noticed in the comparison of the Balance Sheets, which we now proceed to examine.

20. The simplest method will be first to compare the Valuations 1863 and 1868 giving some explanations and corrections which they seem to require.

Bengal Civil Fund.

Abstract C.

Comparison between the Valuations 1863 *and* 1868, *(para.* 20.*)*

(Proportions .53 Ordinary. .47 Additional.)

Assets.	1863.		1868.	
	Ordinary.	Additional.	Ordinary.	Additional.
	Rupees.	Rupees.	Rupees.	Rupees.
Realized Capital,	40,75,798	18,21,341	53,85,348	27,27,201
Value of Subscriptions,	24,36,465	27,11,846	26,78,574	29,64,800
Do. one-sixth Deductions,	77,735	92,961	77,735	92,961
Do. Fines,	....	53,560	....	53,560
Do. Government Donation,	2,40,026	....	2,40,026	....
Do. to make up 25,000 Rupees,	41,742	....	41,742	....
	68,71,766	46,79,708	84,23,425	58,38,522
Liabilities.				
A Incumbent Pensions under the Old Rules,	17,54,242	....	15,06,066	....
Ditto ditto, New Rules,	13,61,735	15,58,790	18,79,288	21,34,489
Appropriated Fund,	31,15,977	....	33,85,354	....
B Contingent,	23,24,598	33,88,318	26,14,081	37,77,875
C Future Contingent,	8,94,840	16,44,293	8,88,118	16,17,356
	63,35,415	65,91,401	68,87,553	75,29,720
Expenses,	24,235	28,982	24,235	28,982
	63,59,650	66,20,383	69,11,788	75,58,702
Deduct 3 per cent. on A, B, C,	1,90,063	....	2,06,627	....
	61,69,587	66,20,383	67,05,161	75,58,702
Deficit,	....	19,40,675	....	17,20,180
Surplus,	7,02,179	....	17,18,264	....

21. By reference to Abstract V. p. 26 of my Second Report, the total amount of Assets in the Ordinary Branch in 1863 will be found to be Rupees 68,71,766, taking the Value of the Income Subscriptions Ordinary at 2½ per cent. and Additional 2, ⅛th and ¼th per cent. The difference is only one Rupee in the item of "one-sixth deductions."

22. The amount of liabilities should be Rupees 61,69,587 being a slight correction of 44 Rupees in the value of the Contingent Pensions B, of one Rupee in the value of the Contingent Pensions C, and of two Rupees in the difference between the 4 per cent. deducted on account of deferred payments of A, B, and C, and the Agents' Commission of 1 per cent. on the same. The Surplus in this Branch consequently should be 702,179 as given in the last line of the Abstract.

23. But in the Additional Branch computed at 5 per cent. a more important error has crept in. The value of the Contingent Pensions B is given in Abstract T,

p. 15 of my second Report as £704022·3 and this amount × 10·24 × ·47 produces 33,88,318 Rupees, being an excess of Rupees 2,00,000 in the estimate given in the comparisons sent me. This correction will raise the deficit in this Branch in 1863 to Rupees 19,40,675.

24. Adopting the method of reducing the Surplus in the Ordinary Branch into 5 per cent. money, by taking 100 bearing 8 per cent. as equivalent to 160 bearing 5 per cent. we find

		Rupees.
Deficit in Additional Branch,		19,40,675
Surplus in Ordinary Branch,	7,02,179 × 1·6 =	11,23,486
Total deficit in 5 per cent. money,		8,17,189

25. The first Item of the Valuation in 1868, Realized Capital in the Ordinary Branch, has been corrected from Rs. 53,75,347 to Rs. 53,85,348 as shown in the accounts presented to the Meeting.

26. The Values of Subscriptions are computed in the same way as in 1863; for the Ordinary Branch by Table XIII., 8 per cent., and for the Additional by Table No. 32, 5 per cent.

27. All the other items of the Assets are the same as in 1863, assuming the average annual receipts and the average age of the Members to be the same.

28. The total corrected for the Realized Capital makes the Assets, Rupees 84,23,425 in the Ordinary and Rs, 58,38,522 in the Additional Branch.

29. In the Liabilities a slight correction of Rs. 6 required in the Values of A Incumbent Pensions in the New Rules and of 1 Rupee more in the deduction for deferred payments, makes the total Rs. 67,05,161 in the Ordinary Branch and Rs. 75,58,702 in the Additional Branch.

30. The final result shows a surplus of 17,18,264 Rupees in the Ordinary and a Deficit of 17,20,180 Rupees in the Additional Branch. Converting the 8 per cent. surplus as before into its equivalent in 5 per cent. money we have.

		Rupees.
Deficit in Additional Branch,		17,20,180
Surplus in Ordinary Branch,	17,18,264 × 1·6 =	27,49,222
Total surplus in 5 per cent. money,		10,29,042

31. On these comparisons we may conclude that in the five years from 1863 to 1868, a deficit of 8,17,189 Rupees has been converted into a surplus of 10,29,042

Rupees, or a total improvement of 18,46,231 Rupees, indicating an annual progress in favor of the Fund of the large sum of 3,69,246 Rupees per annum.

32. Some objection may possibly be taken to the assumption that the surplus in the Ordinary Fund is represented by its equivalent in 5 per cent. money, since it is only whilst it remains in the Ordinary Fund that it will bear 8 per cent. interest. If transferred to meet the liabilities of the Additional Fund, it would only bear 5 per cent. interest, and the Capital would not be increased by the transfer, although the higher interest would be available as long as the Government permitted the surplus to remain to the credit of the Ordinary Fund, and to allow 8 per cent. interest thereon.

33. A more moderate and perhaps juster view of the relative position of the Fund would be, to consider the surplus in the Ordinary transferred to make up the deficit in the Additional Fund as follows :—

	Deficit in Additional.	Surplus in Ordinary.	Nett Deficit.
In 1863,	Rs. 19,40,675	Rs. 7,02,179	Rs. 12,38,496
In 1868,	17,20,180	17,18,264	1,916

34. Even in this unfavorable point of view, the deficit appears to have diminished from 12,38,496 Rupees to 1,916 Rupees or a progress towards solvency of 12,36,580 Rupees in 5 years, being at the rate 2,47,311 Rupees per annum.

35. In the Valuation of 1863, the exchange is taken as 10.24 Rupees = £1 ; in 1868 as 10 Rupees = £1 Sterling.

36. But in both Valuations, the proportion of Liabilities under the New Rules is taken as ·53 Ordinary and ·47 Additional.

37. The conclusions are deduced from the Valuation for 1868, Valuation Table, No. 1 of which a Summary compared with the Summary of the Valuation for 1863 is given in Para. 20.

38. The larger items being computed anew from the Tables, vary considerably at the respective dates, but the smaller items, such as $\frac{1}{6}$th Deductions, Fines, Donations and Payments to make up 25,000 Rupees and expenses which, as explained in my First Report in 1865, were calculated from the average of the 5 years, 1858 to 1863 and by the value of an Annuity at the average life of the existing Members have been taken at the same value in 1868 as in 1863. They would probably differ, if the averages were computed again for the last 5 years, 1863 to 1868, and the average age again ascertained for 1868. But the differences would not be important enough materially to effect the present comparison, and we may reserve the enquiry into this point until after the consideration of the important question as to the proportion of the Liabilities under the New Rules to be charged to the Ordinary and Additional Branch.

39. On reference to the letter of Instructions A (Para. 2) the Managers explain the principle on which a series of Valuations has been made in 1863, and from 1865 to 1868, by making the Ordinary Branch bear a share of the Liabilities exactly equal to its means, the Deficit or Surplus for each year being thrown into the Additional Branch. In fact, after providing in full for the actual liabilities for the Ordinary Branch under the Old Rules, the whole balance in the Ordinary Fund is applied to meet an equivalent amount of the remaining Liabilities, after which the rest of the Liabilities are considered to belong to the Additional Fund.

40. The method by which the practical multiplier is determined, by which this adjustment is effected from year to year, may be best shown by taking for example the Valuation in the year 1863. The results of the similar process for the remaining years will be found in the Appendix, Valuation Table, No. 13. The principle is described as that of Mr. Monteath and after full consideration has been adopted by the Managers.

		Rupees.
Total Assets in the Ordinary Branch (less $\frac{1}{8}$ Deductions,).....		67,94,031
	Rupees.	
Value of Incumbent Pensions on the old Rules,	17,54,242	
Deduct 3 per cent. for deferred payments, less Agency charges, ...	52,627	
		17,01,615
		50,92,416
Total Value of Incumbent and Contingent Pensions under New Rules, and Future Contingent Pensions, £844,113·5 × 10 24 = ...	86,43,642·1	
Deduct 3 per cent. less for Deferred payments, less Agency charges, ...	2,59,309·3	
	83,84,332·8	
Add Management Charges, ...	45,727	
	84,30,059·8	
Less $\frac{1}{8}$ Deductions,...	1,46,669	82,83,390·8

Consequently $\frac{50,92,416}{82,83,391}$ = ·614774 for the proportion of the liabilities to be borne by the Ordinary Branch and ·385226 for the proportion of Liabilities in the Additional Branch.

41. By this method the multiplier will vary every year and the proportion will be found in valuation Table, No. 13 as follows:

	Ordinary.	Additional.
1863, ...	·614774	·385226
1865, ...	·6421492	·3578508
1866, ...	·6497553	·3502447
1867, ...	·6949155	·3050845
1868, ...	·7052392	·2947608
Average,.....	·6614	·3386

42. The Managers consider that, whilst the income of the Ordinary Branch is maintained at its present rate, a larger proportion of the Pension payments should be charged to it. They accordingly propose that the average of five years taken on the above principle should be the multiplier for the following quinquennial period.

43. On again examining Valuation Table, No. 12, it will be noticed that the increase in the multiplier principally arises from the growth of the Realized Capital in the Ordinary Branch. From 1863, it accumulated from 40,75,798 Rupees to 53,85,348 Rupees, whilst the value of the Ordinary Subscriptions only increased from 24,36,465 Rupees to 26,78,574 Rupees. This increase is to be accounted for in great measure by the transfer of Capital from the Additional branch and its consequent accumulation at the high rate of 8 per cent. interest. For the period in question, this method then does not truly represent the natural growth of the Fund from the Ordinary Subscriptions.

44. But another reasonable objection to the method is, that it does not, in my opinion, show the condition of the Fund as it would have been under the Old Rules, nor what the Capital ought to be to meet the liabilities if the Old system only had been continued. Yet it is for the purpose of carrying out the original objects of the Fund, that 8 per cent. interest is allowed by the Government on this Capital and only 5 per cent. on that in the Additional Branch.

45. The method proposed, if strictly applied to the Valuation of each year, shows neither a deficit nor a surplus. It adjusts in fact the Liabilities to the Assets instead of the Assets to the Liabilities. Whatever Assets are found in the Ordinary Branch, except the small item of the one-sixth deductions, are balanced by an equivalent amount taken from the total Liabilities, leaving the rest to be charged to the Additional Branch.

Its most striking effect is, that it gets rid of the difficulty of dealing with a surplus in the Ordinary Branch by converting the surplus into a corresponding amount of the total Liabilities valued at 8 instead of 5 per cent.

46. Thus comparing the two methods of valuation in 1868, taking 53 per cent. and 70 per cent. the Assets in the Ordinary Branch will be found in both cases nearly alike, 84,23,425 Rupees and 84,49,275 Rupees, because the only item affected, is the small one of the one-sixth deductions. But by the former method, the Liabilities were only 67,05,161 Rupees leaving a surplus of 17,18,264 Rupees and by the latter method they are

84,49,275 Rupees leaving no surplus. The fact is, that the surplus has been converted into taking off a corresponding portion of the Liabilities valued at 8 instead of 5 per cent., and leaving the amount charged to the Additional Fund only 47,23,946 Rupees instead of 75,58,702 Rupees as it would have been by the former method.

47. The surplus in the Additional Branch naturally comes out nearly the same, as if the Surplus in the Ordinary Branch had been converted from money bearing 8 per cent. into an equivalent Capital sum bearing 5 per cent. interest. By Mr. Monteath's mode of Valuation, the surplus in the total Fund is found to be 10,79,713 Rupees nearly corresponding to the 10,29,042 Rupees which results from converting the surplus of 17,18,264 Rupees in the Ordinary branch into 5 per cent. money = 27,49,222 Rupees and applying it to cancel the deficit of 17,20,180 in the Additional branch.

48. If instead of a surplus, there had been a deficit in the Ordinary branch, it is evident that the opposite result would be produced. A smaller proportion of the total liabilities would have been valued at 8 per cent. and a larger proportion at 5 per cent. thus increasing the deficit in the former. In fact a sufficient amount of Capital bearing 5 per cent. would have been converted into an equivalent sum to pay off a deficit at 8 per cent.

49. This question of 8 per cent and 5 per cent money requires a little explanation of the mode of dealing with the surplus found in the Ordinary branch. It has been assumed that 100 at 8 per cent. is equivalent to 160 at 5 per cent. This would be true, if there was any actual Stock at 8 per cent. which could be sold for its market price to pay 5 per cent. Then every £100 or 1,000 Rupees might sell for £160 or 1,600 Rupees and would thus discharge an equivalent amount of liability.

50. But the Government only allows 8 per cent. interest for the original objects of the Fund, as represented by the Ordinary branch, and it is only whilst the Capital remains available for those objects that it can be in any sense considered equivalent to the much larger Capital which would be required to produce the same income at 5 per cent. No such stock is in existence, and I suppose that if any surplus could be clearly shown to have been transferred from the Ordinary to make up a deficit in the Additional branch, it would only bear for the future 5 per cent. like the other portion of the latter Funds.

51. Taken in connection with the Valuation of 1868, this is a very important question, as it is evident that the surplus in the Ordinary branch as shown in Abstract (C.) (par. 20,) if simply transferred at 5 per cent. would only just about meet the deficit in the Additional branch.

The apparently large surplus in the total estimate is only obtained by assuming that each 1,000 Rupees of it is actually worth 1,600 Rupees.

52. In order to see what would be the effect of the proposed mode of adjustment if no surplus existed in the Ordinary branch, let us assume that the rule so long acted upon of 53 Ordinary, and 47 per cent. Additional had been found to be correct by experience, and that the present surplus Capital in the Ordinary branch had been found instead in the Additional branch the Realized Capital in the Ordinary branch in 1863 would then have been Rupees (40,75,798 — 7,02,179) and in the Additional branch (18,21,341 + 7,02,179.) The multiplier, by Mr Monteath's principle, would be $(50,92,416 - 7,02,179) = \frac{43,90,277}{82,83,391}$ or 53 per cent. The deficit would have been 12,38,496 Rupees instead of 8,17,189 Rupees.

53. In like manner if there had been no surplus by the Ordinary method of calculation in the Ordinary branch in 1868, but the amount thereof 17,18,264 Rupees had been found in the Additional branch instead, the multiplier by the proposed method would have been as follows:

	Rupees.	
Realized Assets in the Ordinary Branch,.....	53,85,348	
Less surplus ascertained, ...	17,18,264	
		36,67,084
Value of Subscriptions, ...	26,78,574	
Do. of Donations, ...	2,40,026	
Do. to make up 2,5000 Rupees, ...	41,742	29,60,342
Total Assets in the Ordinary Branch, ...		66,27,426
Value of Incumbent Pensions on the Old Rules,...	15,06,066	
Deduct 3 per cent. for Deferred payments, less agency charges, ...	45,182	14,60,884
		51,66,542
Total Value of Incumbent and Contingent Pensions under New Rules. (at 10 Rs. = £1)...Rs.	1,01,53,742	
Deduct 3 per cent. for Deferred payments, less agency charges, ...	3,04,612	
	98,49,130	
Add management charges, ...	45,727	
	98,94,857	
Less Value of ⅛th Deductions, ...	1,46,669	97,48,188

Then $\frac{51,66,542}{97,48,188} = \cdot 53$, the multiplier, by the proposed method for the Ordinary and ·47 for the Additional Branches. The total Assets in the latter would have been

(58,38,522 + 17,18,264) = 75,56,786 Rupees and the total Liabilities 75,58,702 Rs., leaving a small deficit of 1,916 Rupees instead of the large surplus of 10,29,042 Rupees.

54. It seems fair to conclude that as long as a surplus is found in the Ordinary branch by the usual method of Valuation, the plan proposed by the Managers gives a considerable advantage to the Fund. If, however, the principle is admitted, that the surplus in 8 per cent. money may be estimated in 5 per cent. money, and employed to buy off an equivalent amount of the Liabilities in the Additional branch; that is, that every 1,000 Rupees of the surplus may be allowed to stand as equivalent to 1,600 Rs. in the Additional branch, then the results will be nearly the same.

55. There is no doubt in my mind, however, that the true method of finding what would be the real condition of the Ordinary branch, as far as regards the objects of the Society if the old system had been continued, is that suggested and recommended by Mr. Davies. The objections urged by the Managers, that if the statistics of private incomes could be obtained to show what proportion of the Pensions would come under the original charitable objects of the Fund, the result would be to show a different rate of accumulation of private property by the Members from that which prevailed in 1850 may be just and reasonable. It must also be admitted, that it would be difficult and perhaps impossible to collect such statistics now, from the inquisitorial nature of the enquiry.

56. But the method adopted by Mr. Davies, which I explained in Para. 115 of my first Report, was based upon the best information which could be then obtained. Assuming the pensions to be reduced in the case of Widows, Daughters and Sons (as he found them to be) to 75 per cent. of the full Pensions, and also finding that in the 10 years previous to 1850 only 39 out of 55 Pensioners or ·709 came on the Fund, the remaining 16 on account of private property receiving no Pensions, he concluded that by the Rules then existing only 75 × ·709 or 53 per cent. of the full liabilities would, by reason of this restriction, be brought on the Fund.

57. My proposition of 60 and 40 per cent. was deduced by the same method applied to the Valuation in 1863. Comparing those of 1865 and 1868, the average will be found still to correspond very nearly to the same proportions.

	1863.	1865.	1868.	Total
Thus; full Pensions under the Old Rule for Widows, Sons and Daughters, ...	24700	24000	22000	70700
Pensions actually payable, ...	20466	19640	18983	5 089
Proportion, ...	·8286	·8183	·8629	·8358
Which being multiplied by ·709 =	·59	·58	·61	·59

58. Although it would be desirable to have more accurate statistics of the numbers, who would be wholly deprived of Pensions under the Old Rules, there is

nothing in these figures to indicate any rapidly increasing change, as the second period shows less than the first, and the average is a little below 60 per cent.

59. In theory, this method is as near in approximation as we can expect to obtain to the truth; and if the Ordinary subscriptions are still carried to the Ordinary branch as before, it would show periodically what surplus or deficit would be found in this branch.

60. As it is only intended to measure what proportion of the liabilities would fall under the original objects of the Fund, I should not deem it necessary to alter this proportion at each Valuation, unless some proof could be adduced to show that the above averages are changing, or that the retention of them would act unjustly to the Members.

61. It must be admitted, however, that if Mr. Monteath's principle be adopted, it gets rid of the difficulty of dealing with any surplus in the Ordinary Fund which would arise from what I think the correct mode of valuation, since it applies to pay off in 8 per cent. money, estimated at its increased value at 5 per cent., the equivalent amount of liabilities in 5 per cent. money.

62. In order to estimate anew the smaller items of the valuation, we find the average age of the Members by the same method as in my first Report, Para. 146 by dividing the total years of life of existing Members by ·735. The result shows a slight increase in the age at the present date from 37 to 38·7 years, say 39. By Table 18 A. the value of an Annuity at this age is at 8 per cent. 9·289 and at 5 per cent. 12·449.

63. The items to be valued by these Annuities are—

1. The one-sixth deductions estimated as an Asset by the 8 per cent. Annuity according to their proportion for the Ordinary, and by the 5 per cent. Annuity for their proportion in the Additional branch.
2. Fines, valued by the 5 per cent. Annuity, for the Additional branch.
3. Government Donation, valued by the 8 per cent. Annuity for the Ordinary branch.
4. The payments to make up 25,000 Rupees, 12,500 Rupees, or 6,250 Rupees valued by the 8 per cent. Annuity for the Ordinary branch.
5. On the other side of the account, as a liability, the expenses valued by the 8 per cent. Annuity for their proportion in the Ordinary branch and by the 5 per cent. Annuity for their proportion in the Additional branch.

64. The annual amount of each of these items, in 1863, was taken on the average of the preceding 5 years, and as it is convenient to adopt the same method now, I have brought together in Valuation Table, No. 11, a summary of the Accounts for the quinquennial period to 31st March, 1868. Although, from the date of the accounts being

altered to one month earlier, there is a deficiency of one month's estimate in the 5 years, it seems scarcely necessary in such variable items to correct the totals for this small change.

65. This summary of accounts gives a very clear view of the financial progress of the Fund under each head of account.

66. The following abstracted therefrom, gives the total for each year.

Abstract D.

Showing the annual amount of the smaller items of the Valuation, and their average for the 5 years 1863 *to* 1868.

	One-sixth deductions.		Fines including that for disparity of age on marriage.		Govt. donation.	Payment to make up 25,000 Rs.	Expenses, &c.	
	Ordinary.	Additional.	Ordinary.	Additional.	Ordinary.	Ordinary.	Ordinary.	Additional.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
to 30th April, 1864, ...	8,327	7,384	1,744	5,099	25,600	11,965	2,568	2,278
" 1865, ...	9,515	8,439	2,652	5,148	25,600	2,258	2,296	2,037
" 1866, ...	11,810	10,473	5,216	6,032	25,600	1,887	3,278	2,906
to 31st March, 1867, ...	12,699	11,261	754	671	25,600	5,220	2,433	2,164
" 1868, ...	9,531	8,452	3,012	2,241	25,000	3,045	2,704	2,402
	51,882	46,009	13,378	19,191	1,27,400	24,375	13,279	11,787
Total, ...	97,891		32,569		...	...	25,066	
ANNUAL AVERAGE, ...	19,578		6,514		25,000	4,875	5,013	

67. The one-sixth deductions from Pensions to make up the minimum of one-third of the value divided in the proportion of 53 per cent. Ordinary to 47 per cent. Additional have amounted in the whole 5 years to 97,891 Rupees, or an annual average of 19,578 Rupees which being multiplied by 9·289 gives a total value of 1,81,860 Rupees at 8 per cent. and by 12·449 a total value of 2,43,727 Rupees at 5 per cent.

In 1863, the annual amount of the 5 years' average was 15,643 Rupees and the value at 5 per cent. 1,97,790.

68. The next item, Fines, including those for Disparity of age on marriage amounted to 32,569 Rupees or an annual average of 6,514 Rupees and when valued by the same Annuities gives a total value of 60,509 Rupees at 8 per cent. and, 81,093 Rupees at 5 per cent.

In 1863, the average annual receipts were 4,236 Rs. and the value at 5 per cent 53,560 Rupees.

69. The Government Donation £2500 per annum, taken at 25,600 Rs. per annum up to 1867, may now be taken at 25,000 Rupees by the fixed rate of Exchange, and by the same Annuity amounts in total value to 2,32,225 Rupees at 8 per cent. carried only to the Ordinary branch.

In 1863 the value of the annual Donation was taken at 2,40,026 at 8 per cent.

70. The payments to make up 25,000 Rs., 12,500 Rs. or 6,250 Rs. by Retiring Members amounted in the 5 years to 24,375 Rupees or an annual average of 4,875 Rupees and valued by the preceding Annuities give a total value of 45,284 Rs. at 8 per cent.

In 1863, the annual average of the preceding 5 years was found to be 4,552 Rupees, and the value at 8 per cent. 41,742 Rupees.

71. The only remaining item to be estimated in this manner is, the expenses of Management, which amounted in the last 5 years to an annual average of 5,013 Rs., and which valued by the same Annuities as before gives a total liability of 46,566 Rupees, at 8 per cent. and of 62,407 Rs. at 5 per cent.

In 1863, the average was taken as 4,877 Rs. and the value at 5 per cent. 61,665 Rupees.

72. We are now in a position to present the Balance Sheet on 31st March, 1868 on the assumption that the estimated values of those items, which are to be divided between the two branches, may be carried in the proportion of 60 per cent. to the Ordinary and 40 per cent to the Additional branch.

73. The total values on which these proportions are calculated are taken from the Detailed valuation for 1868, valuation Table No. 1 and of which a Summary compared with that of 1863 is given in the following Abstract E.

Abstract E.

Valuations of full items in 1863 *and* 1868 *compared.* (*para.* 73.)

Liabilities.		No.	Pensions.	30th April, 1863. Value of Pensions. 8 per cent.	5 per cent.	No.	Pensions	31st March 1868. Value of Pensions. 8 per cent	5 per cent.
			£	£	£		£	£	£
Old Rules, ...	Widows, ...	56	14,417	121,007·6		48	12,587	97,041·3	
	Daughters, ...	31	2,340	20,154·3		24	1,884	17,098·4	
	Do. (Orphans)	17	1,208	10,675 1		18	1,131	10,006·0	
	Sons, ...	5	305	1,040·4		—	—	—	
		109	18,270	152,877 4		85	15 602	124,145·7	
Ditto since 1850,	Widows, .	8	1,996	16,618 6		12	2,881	21,911·1	
	Daughters, ...	2	200	1,816 7		5	500	4,549 8	
		10	2,196	18,435·3		17	3,381	26,460 9	
New Rules, ...	Widows, ...	55	15,450	149,953 4	198,552·2	77	20,850	198,939 8	261,223·1
	Daughters, ...	73	6,280	57,232 2	74,646 9	111	10,190	88,643·2	115,389 3
	Do. Mar. Don. ..	—	—	6,630·3	8,324 8	—	—	9,898·6	12,222·9
	Sons, ...	66	5,080	37,093·5	42,360·5	104	8,670	57,101·0	65,311·3
	a. Total, .	194	26,810	250,909·4	323,884·4	292	39,710	354,582·6	454,146 6
Contingent on Service, ...	Wives, ..	288	...	180,492 6	318,630 3	305	—	191,521 5	338,289·9
	Daughters, ...	397	..	68,595 2	114,822 6	461	—	79 756·7	133,637·3
	Sons, ..	394	...	32,020·9	41,585·8	429	—	34,967·9	45,369·7
Retired, ...	Wives, ..	114	...	89,564·1	139,543·3	144	—	118,947·	179,529·
	Daughters, ..	225	...	46,328 7	75,424 8	267	—	58,298·	95,077·7
	Sons, ...	210	...	11,322	14,015 5	216	—	9,731·9	11,899·7
	b. Total,...	1,628	..	428,323·5	704,022·3	1822	—	493,223·	803,803·3
Contingent benefits to future children, ...	c. ...	402	...	24,340	48,846·	419	—	23,716·9	47,212·6
Subsequent wives,	d. ...	...	..	21,909·5	46,113·	—	—	23,220·9	48,632·9
Bachelors and Widowers, ..	e. ...	277	...	118,631·1	246,691·	286	—	120,631·7	218,272·8
	Total,...	679	...	164,880·6	341,650·	735	—	167,569·5	344,118·3
Estimate for expenses, ...		...	...	45,727	61,665·	—	—	45,727·	61,665·

Assets.	Annual average.	8 per cent.	5 per cent.	8 per cent.	5 per cent.
		Rs.	Rs.	Rs.	Rs.
Value of Subscriptions, ...	——	24,36,465	27,11,846	26,78,574	29,64,800
One-Sixth Deductions, ...	£1564 3	77,734	92,961	77,735	92,961
Fines, ..	£ 423 6	——	53,560	——	53,560
Government Donation, ...	£2500	2,40,026	——	2,40,026	——
Payments to make up 25,000 Rupees,	£ 445·2	41,742	——	41,742	——
Realized Capital, ...		40,75,798	18,21,341	53,85,348	27,27,201
Total, ...	.....	68,71,765	46,79,708	84,23,425	58,38,522

74. From the above Summary, the following Balance Sheet may be prepared.

Abstract F.

Showing the Liabilities and Assets of the Bengal Civil Fund on 31st March, 1868, in the Ordinary Branch at 8 per cent. and in the Additional Branch at 5 per cent. the former under the New Rules being taken at 60 per cent. and the latter at 40 per cent. of the total Liabilities.

Liabilities.	Ordinary. 8 per cent.	Additional. 5 per cent.	Assets.	Ordinary. 8 per cent.	Additional. 5 per cent.
	Rs.	Rs.		Rs.	Rs.
A Value of Pensions Incumbents Old Rules, ...	15,06,666	.....	Realized Capital, ...	53,85,348	27,27,201
,, Ditto New Rules,	21,27,496	18,16,586	Value of subscriptions,	26,78,574	29,64,800
B Contingent, ...	29,59 338	32,15,213	Do. ½ deductions, ...	1,09,116	97,491
C Future Contingent, ...	10,05,417	13,76,473	Do. Fines, ...	.....	81,093
			Do Govt. Donation, ...	2,32,225	
	75,98,917	64,08,272	Ditto to make up 25,000 Rupees, ...	45,284	
Expenses, ...	27,940	24,963			
				84,50,547	58,70,585
	76,26,857	64,33,235	Surplus, ...	10,51,658	
Deduct 3 per cent. on A. B. C. (namely, ...	2,27,968		Deficit, ...	.....	5,62,650
4 per cent. for Deferred payments. Less Commission.)					
	73,98,889	64,33,235			

75. By this method of valuation I come to the conclusion that on 31st March, 1868, there was in the Ordinary branch a surplus of 10,51,658 Rupees and in the Additional branch a deficit of 5,62,650 Rupees.

76. The former appears to me to arise from what I consider the correct method of valuing the liabilities in the Ordinary branch by the nearest approximation we can make to them in reference to the original objects of the Fund, the Assets being the actual Realized Capital in that branch, and the estimated value of that part of the subscriptions and of the other items which belong to the branch.

77. In what way this surplus may be disposed of is a different question. My own conclusion would be, that as the 8 per cent. interest is only intended to be allowed on such capital as carries out the original objects of the Fund, it ought properly to be applied either in increasing the benefits under the Old Rules or in diminishing the rate of the Ordinary Subscriptions. If the whole of it were allotted in this way, it would still leave the large deficit in the Additional Branch to be made up by an increase to the Additional subscriptions.

78. Mr. Monteath, however, in his Memorandum, dated 23rd December, 1867, contends that this question depends for its solution " not on any intricate calculation or

" theory, but on a simple question of fact arising out of the constitution of the Addi-
" tional branch in 1850.

" The Members of the Fund then decided to extend its benefits, which they were
" perfectly at liberty to do within the limits of their then existing Assets, on which the
" Government had guaranteed 8 per cent.; but the extension of the benefits went beyond
" this limit, and the Government objected to pay the above mentioned rate of interest
" on any Additional Subscriptions, which it might be necessary to levy for that object.
" Certain Additional Subscriptions were levied and in respect to these subscriptions, the
" Fund was limited to a lower rate of interest. It was calculated at the time by the
" Actuary, Mr. Davies, that the Pension payments ought to be debited to the Additional
" and Ordinary branches in the proportion of 47 and 53 per cent. The Managers, how-
" ever, fixed $\frac{1}{3}$ and $\frac{2}{3}$ as the proportions, and in doing so, certainly gave rise to a very
" large and unnecessary waste of the valuable capital of the Fund. In 1862, the pro-
" portions, originally suggested by Mr. Davies, were restored. These proportions have
" now become obsolete and inapplicable, owing to the great subsequent improvement of
" the Assets of the Ordinary Branch, resulting principally from the transfer of a large
" amount of capital to it from the Additional branch.

" Mr. Brown has suggested a new proportion, and apparently intends that propor-
" tion to be fixed absolutely and for ever; and considers, if I understand him rightly, that
" if the income of the Ordinary branch should exceed what may be required for the pay-
" ment of that proportion of Pensions, the Fund should give up its claim to 8 per cent.
" interest thereon. But from what I have already said regarding the nature of the ar-
" rangement in 1850, it will be evident that the Fund is entitled to 8 per cent. interest,
" not on the funds required for defraying a fixed proportion of Pension payments, but on
" the funds realized from a certain fixed percentage rate of subscription, and that the
" lower rate of interest is to be drawn on the subscription realized in addition to the
" original subscription rates. If it be shown as will certainly be the case ere long, that
" the present very high rates of Additional subscription are not required, then let them
" be reduced, or let the benefits be increased, but let the principle be kept well in view,
" that the Fund is entitled to the higher rate of interest on the proceeds of the original
" $2\frac{1}{2}$ per cent. rate of subscription.

" Of course the Fund might abuse this privilege by not paying from the Ordinary
" head a fair and proper proportion of the pension payments; but the interest of
" Government will, in this respect, be fully protected, if the proportion of payment be
" fixed yearly or periodically, according to the proportion of the aggregate liabilities which
" the Assets of the Ordinary branch are able to bear.

" This is the principle kept in view in the estimates now under reference. The
" Ordinary branch is made to bear a proportion of the liabilities exactly equal to its
" means, the surplus or deficit being thrown into the Additional Branch.

" To carry out this principle, it will be necessary, as above stated, to alter the
" proportion of pension payments debitable to the Ordinary branch, either yearly or
" periodically, according to the valuation of each year or period of years.

"I think that the alteration ought to be periodical, *i. e.* at each quinquennial "valuation, and that the first ought to be made at the quinquennial valuation due next "year."

If this view is correct, and it is clearly understood that whether the Ordinary branch would present a surplus or deficit, when valued by the usual method, it would still bear 8 per cent. interest until it is exhausted and may be applied, so far as it is over and above the value of the Liabilities under the Old Rules, to pay off the relative proportion of liabilities under the New Rules, Mr. Monteath's method will no doubt be adopted.

80. But I would venture to suggest that if from any cause the usual mode of valuation would have shown a deficit in the Ordinary branch, which the Members would have to make up by transfer from the Additional Fund in order to obtain the benefit of the 8 per cent. interest, the plan proposed would be against the Fund, since no deficit would be shown by it, and no effort would consequently be made to increase the 8 per cent. capital to the extent required.

81. Taking, however, the proportion proposed by the Managers of 66 per cent. for the Ordinary branch, being the average value of x by Mr. Monteath's principle for the last 5 years, I proceed to show what would thereby, be the comparative state of the Fund.

Abstract G.

Shewing the Liabilities and Assets of the Bengal Civil Fund on 31*st March*, 1868 *in the Ordinary Branch at* 8 *per cent. and in the Additional Branch at* 5 *per cent. the former under the New Rules being taken at* 66 *per cent. and the latter at* 34 *per cent. of the total Liabilities.*

Liabilities.	Ordinary 8 per cent.	Additional 5 per cent.	Assets	Ordinary 8 per cent	Additional 5 per cent.
	Rs.	Rs.		Rs.	Rs.
Value of pensions			Realized Capital, ...	53,85,348	27,27,201
A Incumbent Old Rules,	15,06,666	... ..	Value of subscriptions,	26,78,574	29,64,800
,, Do New Rules, ...	23,40,246	15,44,098	Do. ⅛ Deductions, ...	1,20,028	. ...
B Contingent, ...	32 55,272	27,32 931	Do. Fines, .	.....	82,867
C Future Contingent, ...	11,05,959	11,70,002	Do. Govt. Donation, .	2,32,285	
			Do. to make up 25,000	45,284	
	82,08,143	54,47,031			
Expenses, ...	30,734	21,218	Rupees, ...	84,61,519	57,74,868
	82,38,877	54,68,249	Surplus, ...	4,68,886	3,06,619
Deduct 3 per cent. on ABC	2,46,244				
	79,92,633	54,68,249			

The final result by this method appears to be a surplus of 4,68,886 Rupees in the Ordinary Fund and of 3,06,619 Rupees in the Additional Fund.

82. By Mr. Monteath's value of x at the same date the total surplus appeared to be 10,79,713 Rupees in the Additional branch and none in the Ordinary branch. It is evident that unless his plan is carried out annually, the Assets in the Ordinary Branch in excess of what is required for the liabilities under the Old Rules, will not be discharging the functions he assigns to them of clearing off their full proportion of liabilities in the Additional branch.

83. In whatever way we present these figures, it is evident no great advantage is gained unless the surplus, whatever it may be, in the Ordinary branch, standing at 8 per cent. interest, is allowed to accumulate at that rate and help to meet the liabilities in the Additional branch.

This is what is really effected by Mr. Monteath's method of valuation, and which then showed a surplus on the whole Fund at the date of the last Valuation of 10,79,713 Rupees.

84. If the surplus in the Ordinary branch given in the above Balance Sheet by the Committee's proportion of 66 per cent. be converted into its equivalent in 5 per cent. Stock 4,68,886 × 1·6 = 7,50,218 Rupees, and added to the surplus in the Additional branch 3,06,619 Rupees, the total surplus will appear nearly the same, 10,56,837 Rupees.

85. Also, if the surplus brought out in the Ordinary Fund by my valuation with the proportion of 60 per cent. may be converted into the equivalent value in a 5 per cent Stock 10,51,658 × 1·6 = 16,82,653 Rupees and 5,62,650 Rupees the deficit in the Additional branch be deducted, there would appear to be a surplus on the whole Fund of 11,20,003 Rupees, not greatly differing from the above two estimates.

86. If this application of the surplus is admitted, I think that the proportions of 60 and 40 per cent. which at the present time represent in my judgment the nearest approximation we can obtain to the relative values in the Ordinary and Additional branch, will be much more convenient than the annually changing proportion suggested by Mr. Monteath.

But these proportions may be re-examined by the same method and re-adjusted, if necessary, at each quinquennial Valuation.

87. All the above ascertained surpluses imply that the Government admits the principle that any Funds found in the Ordinary branch if they show a surplus, when the liabilities for the original objects of the Fund are estimated by the usual approximate methods, will continue to bear 8 per cent. till such Fund is exhausted, and on the other hand that any deficit may be made up by a transfer from the Additional Fund or by increased subscriptions to be invested at that high rate.

88. If a Stock bearing 8 per cent. was issued every 1,000 Rupees of which would rise in the market to 1,600 Rupees to pay 5 per cent. there would be no difficulty in the

matter as such Stock being sold out from time to time would meet the liabilities in the Additional branch according to its full value. But as this is not the case, I should hesitate to advise large additions to benefits, or great reductions of the Subscriptions, unless this point is clearly and distinctly understood.

89. With these observations, I leave the further consideration of this important question to the Managers, and proceed to examine and estimate the value of each proposition as requested.

90. A proposition to relieve Annuitant Subscribers from further payments on their compounding at one-tenth of the present rates.

The parties affected by this proposal will be—

1. Retired Members, who have not yet compounded, and the value of whose Subscriptions, as at present payable, forms part of the Assets.
2. Retired Members who having already compounded, are to be refunded nine-tenths of the amount, which they would now have to pay for that object.
3. Members now in the Service, likely to avail themselves of the offer of compounding on these favorable terms when they retire.

91. In regard to the first class, the effect will be to diminish the Assets by the amount included in the Valuation for their Subscriptions in the Ordinary and Additional branch respectively after deducting the amount which in each class they would pay for the one-tenth value of their compounded subscription.

92. In Valuation Table, No. 2, will be seen the number of Retired Members at each age and the respective value of their subscriptions. The total number is 128, the total value of their subscriptions in the Ordinary branch 3,19,331 Rupees, and in the Additional branch 3,01,477·6 Rupees.

93. To obtain the value of their compounded subscriptions, it is necessary to have recourse to the Nominal List of Subscribers out of the service in which the total number of Sons and Daughters in each family, and the total rate per cent. paid on their incomes for both.

94. But as the total income or amount of subscription is not stated nor the ages of the Member, his wife, and children I have supposed in each case the income to be £1000 a year and obtained the ages as near as possible from the family register. The ages are taken at date of last birthday as the Annuity Tables are favorable. I have also assumed that every Retired Member will accept the offer.

95. The Table used for valuing these Subscriptions, it might be supposed should not differ much from one representing, at 5 per cent. for the whole life the usual rate of

mortality amongst Annuitants in England. But as Mr. Davies' Table XX was adopted for that purpose, it seems only just that the New Table of Mortality, No. 17 (A), computed from the new materials, should be used instead. The value of the whole Life Annuity is given No. 18 (A), in my first Report. This applies to the Ordinary subscriptions of $2\frac{1}{2}$ per cent.

96. For the Additional subscriptions at 2 per cent. the Joint Life Annuity has been completed from the Table, No. 19, in my first Report, the third column of which shows the D for each age of the wife, with the Husband, on an average, 7 years older. By the continual addition $\frac{D}{x\,x+7}$ beginning at the oldest age we obtain $\frac{N}{x\,x+7}$, and hence the value of the Joint Life Annuity in the usual way $\frac{N}{D}\,\frac{x\,x+7}{x\,x+7}$, as used by Mr. Davies. See Table, No. 9.

97. A more minute valuation might be made by taking some Table in which the Joint Life Annuities are given for every difference of age; but as the average difference of 7 years has been assumed throughout in valuing the Contingent Pensions, it seems to be sufficiently just in reasoning on the probable results to apply the same rate to compounding the subscriptions.

98. In like manner the Joint Life Table for Fathers till the Marriage or death of Daughters has been obtained from Table, No. 24, in which column 3 gives $\frac{D}{xx+35}$ from the new Table, No. 17 (A), combined with Mr. Davies' Table X, and the D and N. columns and values of Annuity at 5 per cent. are shown in Table, No. 10.

99. The Joint Life Annuity of Father and Son till the latter attains 21 is computed from $\frac{D}{x\,x+35}$ in column 3 of Table, No. 23 at 5 per cent. and shown in Table, No. 11.

100. The average difference of age of Father and either Son or Daughter is assumed to be 35 years, as in valuing the contingent pensions.

101. But if Tables of Joint Lives are in use for the actual difference of age in every case, they may be computed, if the Committee decide it to be necessary.

102. The Bachelors' subscriptions have been valued as $2\frac{1}{2}$ per cent. on income for whole life in the Ordinary branch by Table, No. 18 A, First Report, 5 per cent.

103. The Married Members' subscriptions have been valued as $2\frac{1}{2}$ per cent. on income for whole Life by Table, No. 18 (A), in my first Report in the Ordinary branch; for 2 per cent. during the joint lives of himself and wife by Table, No. 9 in the Additional branch; and for one-fourth per cent. for the joint life of the Father, till the marriage or death of each Daughter by Table, No. 10 in the Additional branch; and one-

eighth per cent. for the joint life of the Father and each Son till he attains 21, by Table, No. 11, in the Additional branch.

104. These items are all given in detail in Valuation Table, No. 3. The Summary is as follows:—

	No.	2½ per Cent. on Income.	Ordinary Value of ditto.	Wives, 2 per Cent. Daughters, ¼, p. c. do. of Widowers, ½, p. c. Sons ⅛ p. c. do. of Widowers, ¼ p c.	Additional Value of ditto.
		£	£	£	£
Bachelors, ...	13	325	3,258·5	...	...
Married Members and Wives,...	105	2,625	25,170·2	2,100	17,675·1
„ Daughters, ...	187	...	...	467·5	3,323 5
„ Sons, ...	168	...	...	210	1,166·1
Widowers, ...	10	250	2,159·6	...	...
„ Daughters, ...	15	...	...	75	473 0
„ Sons, ...	8	...	...	20	78·1
TOTAL, ...		3,200	30,588·3	2,872·5	22,715 8

Total Ordinary,..... £30,588·3 Additional £22,715·8
One-tenth of ditto, ... £3,058·8 „ £2,271·6

105. Deducting the total value of one-tenth part of these receipts from the total value of the subscriptions remitted, we find the cost of this proposition to the Fund will be—

	Ordinary Branch.	Additional Branch.
	£31,933·1	£30,147·8
Deduct, ...	3,058·8	2,271·6
	28,874·3	27,876·2

106. From the anomalies which arise in some cases by assuming a uniform difference of 7 years in the ages of Husband and Wife, I have put in the values of the joint lives by the 5 per cent. Carlisle Table at the actual ages. The total value of the subscriptions so ascertained is £17,797, showing only the small difference of £121·9. It would be more just to individual Members in most cases to use the latter values.

107. The next question is, the cost of returning to the Retired Members who have already compounded nine-tenths of the total value of their composition, supposing it to be effected at the date of the present valuation.

108. In the nominal list I only find their names and the number of Sons and Daughters, and the total percentage for each class.

109. But by turning to the Family Register, we may fill in the ages of themselves and their families supposing them to be corrected to the date of the valuation.

110. The list so exhibited in Valuation Table, No. 3, Part II. contains 50 Members. The valuation is made by the same Tables, and in the same manner as that of the other Retired Members.

The following is a summary of the results:

	No.	2½ per Cent. on Income.	Ordinary Value of ditto.	Wives, 2 per cent Daughters, ¼ p c do of Widowers ½ p c. Sons ½ p c. do. of Widowers ¼ p c	Additional Value of ditto.
		£	£	£	£
Bachelors, ..	8	200	1945·9	.....	.....
Married Members and Wives,	39	975	7674·3	780	5930 2
„ Daughters, ...	54	... ..	..	135	886 4
„ Sons, ..	36	.....	..	45	212 6
Widowers, ...	3	75	698·6	... .	. .
„ Daughters, ...	9	.....	.....	45	330 5
„ Sons, ...	4	.....	.....	10	67 7
Total, ...		1250	10318 8	1015	7427 4
Deduct one-tenth, ...		.....	1031 9		742 7
			9286·9		6684·7

By this process, we find that to return to the Retired Members who have already compounded for their Subscriptions, nine-tenths of their present estimated value would cost the Fund £9286·9 in the Ordinary branch and £6684·7 in the Additional branch.

111. Valuing the subscriptions on the joint lives of Husband and Wife by the 5 per cent. Carlisle Table, at the actual ages, the total value is £5557·4 instead of £5930·2, by the average difference of 7 years in age and the Tables of the Fund. This would give £6331·1 to return instead of £6684 7 in the Additional branch, and put the valuation for the Members who have compounded on the same footing as that of the Members who are to be allowed to compound.

112. The next step is to ascertain the cost to the Fund, if all the Members at present on Service should, on their Retirement, accept the boon of commuting their future subscriptions for one-tenth part of the estimated value.

113. In order to approximate to this, we require to know the average age of retirement, the proportions that will then be Married, Widowers, or Bachelors, and the probable number of children of both sexes living at the time and for whom subscriptions may be paid.

114. As this refers to a future time, it is difficult to estimate it with any degree of accuracy. It would probably cost considerably more than the average of the values

for the total number of Retired Members we have just found; as the composition may in all cases be expected soon after the date of retirement, and consequently at an average younger age than that of existing Retired Members.

115. But as there are no other means readily available, I take this estimate as a rough approximation to the lowest probable value at which this item should be provided for.

116. The average value of the Subscriptions of the 128 Members who had not compounded was $\frac{319331}{128} = 2{,}495$ Rs. in the Ordinary branch and $\frac{3{,}01{,}477{\cdot}6}{128} = 2{,}355$ Rs. in the Additional branch, corresponding in both cases to the value at between 54 and 55 years of age.

117. The present estimated value for these 128 Members to compound under the new proposition would be one-tenth of 3,05,883 Rs. or 239 Rs. each in the Ordinary branch and one-tenth of 2,27,158 Rupees or 177·5 Rupees each in the Additional branch.

118. Deducting these from the values (para. 116,) we find the average loss to the Fund by each Member would be 2,256 Rupees, in the Ordinary branch, and 2,178 Rs. in the Additional branch, at the mean age of 55.

119. These may be treated as two deferred sums discounted to the present age of each Member in the Service, and depending on his living till 55, valued by the usual formula $\frac{D\ 55,}{D\ x}$, the former at 8 per cent. and the latter at 5 per cent.

120. The Unmarried Members on Service are included because the compounded Subscriptions comprise in the Ordinary branch the value of the proportion from those who remain unmarried after retirement.

121. The total loss to the Fund will be found in Valuation Table, No. 4 and is estimated to be 2,02,860 Rupees in the Ordinary branch and 3,11,119 Rupees in the Additional branch.

122. In reference to the proposal to frame a new Table of fines for disparity of age on marriage in consequence of the favorable rates offered for compounding the subscriptions, it seems to me that the numbers marrying at the advanced ages in which the principle difference is found are so very few, that I have supposed the Committee would not eventually consider it necessary to alter the present Table of fines, especially as the actual value of the risk, if the benefits to children be included, could only be obtained on very rough averages.

123. The next question to be considered is—

B The cost of the proposed increase of Donation to a Daughter on Marriage.

124. The value of £200 Donation on Marriage at 8 per cent. and 5 per cent. to fatherless Daughters, is easily obtained at the former rate from the second column of Table V. in my second Report by taking off one-third. At 5 per cent. it will be found in a similar way from column 11 of Table, No. 22 in my first Report.

125. The value at each age $x + \frac{1}{2}$ are given for £200 in Tables, Nos. 1 and 5, but as in the last valuation, the Marriage Donation of £300 for fatherless Daughters living on 31st March, 1868 is estimated separately from the other benefits, we find the full value of two-thirds thereof to be £6599·1 at 8 per cent. in the Ordinary branch, and £8148·6 at 5 per cent. in the Additional branch.

126. To obtain the value of this Donation contingent on the death of the Father, if now living, two new Tables had to be constructed in similar form to No. VIII. in my second Report at 8 per cent. and No. 24, in my First Report at 5 per cent. because the benefit P $x + \frac{1}{2}$ there valued included the Contingent Reversionary Annuities.

127. The method of constructing Tables, Nos. 2 and 6 is precisely the same as in those Tables and need not be further described.

128. Valuation Tables, Nos. 5 and 6 show the total value, at each age, of this Contingent Donation of £200 on Marriage to the Daughters of living Members on 31st March, 1868 (in the Service and Retired,) at 8 per cent., for the Ordinary branch, and 5 per cent. for the Additional branch.

The totals are as follows :—

	No. of Daughters.	8 per cent. Ordinary. Members on Service. Value of Donation.	5 per cent. Additional. Value of Donation.
Members on Service, ...	461	£ 4958·6	£ 7893.8
„ Retired, ...	267	3035·8	431·2
	728	7994·4	12205·8
Add. for fatherless daughters, ...	111	6599·1	8148·6
Total, ...	839	14593·5	20,354·4

We thus find that the total liability under this proposition will probably amount in value to about £14,593·5 at 8 per cent., and £20,354·4 at 5 per cent.

129. These Values would be further slightly increased by the alteration of the Tables which would have to be made for the valuation of the future benefits of Daughters born to existing marriages, as well as those, to value the liabilities that would be brought on the Fund by the future marriages of present Bachelors, as we shall presently see.

130. The next proposition of the Managers is—

C. As to giving to each Son £500 on his attaining 21, and advancing that sum together with the annual pension up to 21 at any age after 16, on being satisfied that the recipient was finally settled in any employment or profession.

131. In order to estimate the cost of this measure, I have added to the Tables at 8 and at 5 per cent. Tables, Nos. 3 and 7 showing the value of any age from birth to 21 of receiving £500 at the latter age. These two Tables relate to fatherless Sons.

132. For Sons with fathers living Tables, Nos. 4 and 8 give at 8 and 5 per cent. the value contingent on the Father dying before the Son attains 21.

These Tables are similar in construction to Table, No. 23, differing only in the value of P $x + \frac{1}{2}$ which in this case is taken from the preceding Table.

133. The actual Valuation for fatherless Sons living 31st March, 1868, will be found in Valuation Tables Nos. 7 and 8. The total value of this benefit for 104 Sons amounts to £26,476 at 8 per cent. and £32,608·8 at 5 per cent.

134. Sons with Fathers living have been grouped together at each age as shown in the Valuation, and the total values of the Contingent Liability under this head are estimated as follows in Valuation Tables, Nos. 9 and 10.

135. Value of Donation of £500 at age 21.

	No.	Ordinary. 8 per cent.	Additional. 5 per cent.
Sons of Members in the Service, ...	429	£16,375·6	£23,933·6
" Retired,.....	216	7,551·2	9,696·6
	645	23,926·8	£33,630·2
Fatherless Sons,.....	104	26,476·0	32,608·8
	749	£50,402·8	£66,239·0

136. The total value of this proposed new benefit for Sons living at the Valuation in 1868 appears to be £50,402·8, at 8 per cent. and £66,239 at 5 per cent.

137. But neither for Daughters nor Sons, have we yet valued the liability which may arise from the increase to families of present married Members or children that

may be born by future first marriages of present Bachelors or subsequent marriages of present Married Members or Widowers.

138. The first of these may be obtained by the method explained in para. 126 of my first Report by assuming that on an average amongst Married Members under age 40, there will be an equal chance that there will be an increase in the family of one son or one daughter every five years; and consequently if the value of the proposed liability at birth be discounted for the probability of both husband and wife living to each successive period of five years, the sum of these values may fairly represent the risk for each Married Member between the given ages.

139. The contingent value £200 Donation on Marriage to a Daughter just born is by Table— at 8 per cent. £7·51.

Consequently £7·51 × 5 + D 40·33 by Table No. 19 = £2·19 the value at the Husband's age 35 and so successively for the younger ages.

140. As this value of the Donation at birth bears a definite proportion to the total value of the Contingent Pension at birth, which is already computed in the Valuation, we may shorten the calculations by using these figures—

$$\text{Thus at 8 per cent.} \quad 127{\cdot}47 : 74{\cdot}4 :: \frac{7{\cdot}51}{2} : 2{\cdot}19 \quad (£ \quad £)$$

$$\text{at 5 per cent.} \quad 207{\cdot}4 : 139.4 :: \frac{14{\cdot}26}{2} : 4{\cdot}79$$

and so on for each group of quinquennial ages.

141. The same method will apply to the Valuation of the Donation of £500 for Sons on attaining 21. the contingent value of which at birth is £28·43 at 8 per cent. and £50·79 at 5 per cent.

$$\text{Then at 8 per cent.} \quad 127{\cdot}47 : 74{\cdot}4 :: \frac{28{\cdot}43}{2} : 8{\cdot}30 \quad (£ \quad £)$$

$$\text{at 5 per cent.} \quad 207{\cdot}4 : 139{\cdot}4 :: \frac{50{\cdot}79}{2} : 17{\cdot}07$$

142. The total values of the increased Donation of £200 on Marriage to Daughters who may be yet born from existing Marriages, may then be estimated as in the following Table at 8 and 5 per cent.

Ages Of Married Memrs	Value of Daugh. Don. £200	No. of Marrd. Memrs.	At 8 per cent. Total Value.	Value of Daugh. Don. £200	At 5 per cent. Total Value.
35-40	£ 2·19	69	£ 151.1	£ 4·79	£ 330.5
30-35	3·52	82	288·6	8 13	666·7
25-30	4·35	55	239·3	10 49	577·
20-25	4·89	4	19·6	12 23	48 9
		210	698·6		1623·1

143 The same method may be applied to obtain the value of the proposed Donation of £500 on attaining the age 21 to such Sons as may be hereafter born of existing marriages. The results are shown in the following Table—

Ages of Married Members.	Value of Sons. Don. £500 at 21.	No. of Married Membe s	At 8 per cent. Total value.	Value of Sons. Don. £500 at 21.	At 5 per cent. Total Value.
	£		£	£	£
35-40	8·30	69	572·7	17·07	1177·8
30-35	13.34	82	1093·9	28·95	2373·9
25-30	16·45	55	904·8	37·37	2055·4
20-25	18·50	4	74·	43·57	174·3
	Total,	210	2645.4		5781·4

144. For the liabilities under the future marriages of present married Members, the values must be so small, that it is scarcely worth while to calculate fresh Tables for the purpose of estimating them. The method to be pursued if necessary will be found in para. 131. of my First Report.

145. Assuming that three children may be born on an average to each subsequent marriage, male and female, in equal proportions, and one with another five years after marriage, we should have the value fit the date of marriage as follows

At 8 per cent. Daughter's Marriage Don. of £200.	Value at birth £ 7.51×1.5× 6806=£ 7.67
At 5 per cent. ditto.	Value at birth £14.26×1.5× 7835=£16 76
At 8 per cent. Son's Donation of £500 at 21.	Value at birth £28.43×1.5× 6806=£29.83
At 5 per cent. ditto.	Value at birth £50.79×1.5× 7835=£59.70

The last values multiplied into the proportion of Widowers marrying to the living Married would give by the computations in Abstract S, para. 132, First Report, the actual value of the proposed liability under this head.

146. On comparing the total value of the family benefits to wife and children at the date of marriage, they will be found very nearly an average of £1,650 increasing somewhat from the younger to the older ages.

The value at 5 per cent. of the increased Marriage Donation of £200 to the Daughter at date of marriage, being estimated at £16·76 it will be sufficiently new to value the total benefit at one per cent. on the estimate in the Valuation of 1868.

This gives £23220·9 × ·01 = £232·2 approximate Value of the increased Donation of £200 at 8 per cent. and £48,632·9 × ·01 = £486·3 ditto at 5 per cent.

147. In like manner comparing the value of the Son's Donation at 21, we find it to be $\frac{59·7}{1650}$ = 3·6 per cent. nearly.

This gives £23,220·9 × ·036 = £836 approximate value of Donation of £500 to Sons at 21, 8 per cent.

£47,212·6 × ·036 = £1750·8 ditto ditto 5 per cent.

148. In regard to the values of proposed Donations to Daughters and Sons of such Bachelors and Widowers as may marry hereafter, it is not necessary to compute fresh Tables, since on a little examination, they will be found to constitute a percentage on the estimated benefits of Children of this class already given in the Valuation C.

149. At 8 per cent. these are taken from Table XI in my Second Report, which is based on the assumption, that 4·5 children will be born to such marriages in equal proportions of males and females, and one with another 5 years, after the date of marriage. The value of children's benefits at birth, consequently discounted for 5 years, forms a constant to be provided for at each age and depending on the probabilities of marriage of the Member at each subsequent age.

150. By the same method we find the Contingent Value on the birth of each Daughter in a family, of £200 Donation on her marriage, discounted for 5 years at 8 per cent. to be—

From Table No. 2 £7 51 $\times$ 2·5 $\times$ ·6806 = £12·78.

151. Since the constant value of the benefits is taken in the Table as £390·4 the proportion $\frac{12{\cdot}78}{390{\cdot}4} = 3{\cdot}27$ per cent. of the total liability.

In the valuation to 31st March, 1868 £47143·7 $\times$ ·0327 = £1541·6 as the value at 8 per cent. of the increased Donation of £200 to Daughters on Marriage to the future probable families of 286 present Bachelors and Widowers.

152. At 5 per cent. we find the corresponding value from Table No. 27 (D.) in my first Report, the formation of which is explained in paras. 71-75, taking the value of the Contingent Donation from Table No. 6. at birth.

£14·26 $\times$ 2·5 $\times$ ·7835 = £27·93.

and as the constant value of the benefits in the Table is given as £731·36 we find $\frac{27{\cdot}93}{731{\cdot}36} = 3{\cdot}82$ per cent. of the total value.

153. Referring again to the Valuation, £99476 5 $\times$ ·0382 gives £3800 for the estimated value at 5 per cent. of the increased Marriage Donation of £200, estimated for the probable Daughters of present unmarried Members.

154. The same mode may be adopted for finding the value of proposed Donation of £500 to sons attaining 21 since that also forms a constant proportion of Children's benefits at birth.

155. At 8 per cent. from Table, No. 4, at birth.

$$£28{\cdot}43 \times 2{\cdot}5 \times {\cdot}6806 = £48{\cdot}37$$

and the proportion $\frac{48{\cdot}37}{390{\cdot}4}$ gives the estimate on the whole liability 12·39 per cent. which taken on £47143·7 makes the estimated Value of the new benefit to Sons at age 21 £5841·1.

156. At 5 per cent. from Table—at birth, £50·79· × 2·5 × ·7835 = £99·48 and the proportion $\frac{99{\cdot}48}{731{\cdot}36}$ gives the estimate on the whole liability £13·6 per cent. which taken on £99,476·5 makes the estimated liability for the new Benefit to the future probable Sons of present Unmarried Members £13,528·8.

157. By collecting together all the items, and referring to the paragraphs in which they are explained, we shall find the total values of the proposed increase of Donation to Daughters on Marriage to be,

	At 8 per cent.	At 5 per cent.
Fatherless Daughters living 1868, ...	£6599·1	£8148·6
Daughters with Fathers living in the Service or Retired, ...	7994·4	122205 8
Daughters who may be born from Existing Marriages, ...	698·6	1623 1
Ditto ditto from future marriages of present Married Members,... ..	232 2	486 3
Ditto from future Marriages of present Bachelors and Widowers, ..	1541·6	3800·
	£17065 9	£26263·8

The total Value of the benefit under these different heads amounts to £17,065·9 at 8 per cent. and £26263·8 at 5 per cent.

158. If divided in the proportions of 60 and 40 per cent. according to my Valuations the charge to the Ordinary branch would be £10239·5 and to the Additional Fund £10505·5.

159. If the proportions suggested by the Managers be adopted of 66 and 34 per cent. the charge to the Ordinary branch will be £11263·5 and to the Additional branch £8929·7.

160. Again collecting in like manner the similar items for the proposed new benefit of a Donation of £500 to sons on attaining age 21 we find—

	At 8 per cent.	At 5 per cent.
Fatherless sons living, 1868, ...	£26476·6	£32608·8
Sons with Fathers living in the Service or Retired, ...	23926·8	33630·2
„ who may be born from existing Marriages, ...	2645 4	5781·4
„ „ from future Marriages of present Married Members,...	836·	1750·8
„ „ from future Marriages of present Bachelors and Widowers, ...	5811·1	13528·8
	£59725·3	£87300·0

The total value of the proposition is £59725·3 at 8 per cent. and £87,300 at 5 per cent.

161. If divided in the proportion of 60 and 40 per cent. the charge will be £35,835·2 to the Ordinary branch and £34,920 to the Additional branch.

162. If the proportions be 66 and 34 per cent. the charge will be £39418·7 to the Ordinary branch and £29682 to the Additional branch.

163. In regard to the wish of the Managers to be empowered to advance the £500 together with the annual Pensions up to age 21, at any time between ages 16 and 21, on being satisfied that the recipient is finally settled in any employment or profession, it is very difficult to decide what would be the total cost to the Fund thereby. I have no means of knowing how many existing Son or Sons, that may hereafter be born to present Members, would apply for this advance.

164. It would be easy, however, to see nearly what would be the cost in each individual case as it arises, by ascertaining at his then age what is the value of the remaining benefits payable to him by the Table used in the Valuation. The difference between that value and the sum actually advanced would be the loss to the Fund. Thus at 5 per cent. at age 16 the value of £500 at 21 is by Table, No. 8, £376·85 and if £500 be then advanced, the loss will be £123·15.

165. Again the value of the Pension of £100 a year till 21 is by Table, No. 20, First Report, £439·2 and by advancing the five remaining instalments of £100 = £500 the loss will be £60·8.

166. It would seem to me that in all cases it would be sufficient to advance the actual value of the remaining benefits at whatever age after 16 the advance is effected, and which would thus cause no loss to the Fund, and require no calculation for its Reserve Value.

167. The further question as to the effect of increasing the benefits by 50 per cent. up to the ages of 18, to children who may be deprived of both parents before that age, would require very elaborate Tables for each sex, since it involves the Contingencies depending on three lives, and various rates of Annuities, at different ages of the children

168. But as it seems highly improbable that any portion either of this or the previous increase of benefits can be granted in the present state of the Fund, I have not thought it necessary at present to compute the Tables.

169. Lastly the risk that the allowance drawn by a boy should not cease during his lifetime, in case of his being wholly incapacitated mentally or physically from earning his living, cannot be computed without more experience or observations. But the cases I imagine would be so few, not exceeding two or three, that the Managers might venture to propose such a benefit, reserving to their discretion the power of fixing the Pension at any amount less than the full rate or declining to issue further Pensions of a similar character if necessary, as the special circumstances or the claims on the fund may induce them to think expedient.

170. Having thus endeavoured to estimate, as nearly as circumstances permit, the cost of each of the proposed benefits, the best way to show the effect on the Surplus will be to deduct them successively in each branch from the results of the valuations to 1st April, 1868, as made by me and as proposed by the Committee.

	Valuation, April, 1868.						
	8 per cent. Ordinary 60 per cent.		5 per cent Additional 40 per cent.		8 per cent. Ordinary 66 per cent.		5 per cent Additional 34 per cent.
	Rs.		Rs.		Rs.		Rs.
Surplus, ...	10,51,658	Deficit.	5,62,650	Surplus.	4,68,886	Surplus.	3,06,619
Deduct, ... (Par. 105) Retired Members compounding Subscriptions for 1-10th of their value, ...	2,88,743	Add.	2,78,762	Deduct.	2.88,743	Deduct.	2,78,762
	7,62,915		8,41,412		1,80,143		27,857
(Par. 110) Deduct Return of 9-10th the Value to Members who have compounded, ...	92,869	Add.	66,847	Deduct.	92,869	Deduct.	66,847
	6,70,046		9,08,259		87,274	Deficit.	38,990
(Par. 121) Deduct Estimated loss to the Fund by Future Retired Members compounding, ...	2,02,860	Add.	3,11,119	Deduct.	2,02,860	Add.	3,11,119
	4,67,186		12,19,378	Deficit.	1,15,586		3,50,109
(Par. 158, 9) Deduct Increased donation of £200 to daughters on Marriage, ...	1,02,395	Add.	1,05,055	Add.	1,12,635	Add.	89,297
	3,64,791		13,24,433		2,28,221		4,39,406
(Par. 161, 2) Deduct Donation of £500 to Sons on attaining 21,	3,58,352	Add.	3,49,200	Add.	3,94,187	Add.	2,96,820
Surplus,...	6,439	Deficit.	16,73,633	Deficit.	6,22,408	Deficit.	7,36,226

171. In my valuation, at 60 per cent. Ordinary and 40 per cent. Additional, the total effect of these various measures is to reduce the Surplus from 10,51,658 Rupees in the Ordinary branch to 6,439 Rupees and to increase the Deficit from 5,62,650 Rupees in the Additional branch to 16,73,633 Rupees.

172. If the small Surplus 6,439, be estimated in 5 per cent. money in the usual way and deducted from the Deficit 16,73,633 Rupees (6439×1·6) = 10,302 there still remains a deficit of 16,63,331 in the 5 per cent. funds.

173. On the other hand on the Managers' proposition of 66 per cent. Ordinary, and 34 per cent. Additional, the Surplus of 4,68,886 Rupees in the Ordinary branch is reduced by the same measures to a deficit of 6,22,408 Rupees and the Surplus of 3,06,619 in the Additional branch is converted into a deficit of 7,36,226 Rupees.

174. Reckoning the deficit in the Ordinary branch in 5 per cent. money as before 6,22,408 × 1·6 = 9,95,853, and adding it to the deficit in the Additional Funds there appears a total deficit of 17,32,079 Rupees in 5 per cent. money.

175. It is evident therefore that the new benefits proposed are much too great for the present position of the Fund.

176. It will not even bear the carrying out of the first proposition of the Committee, for a very small margin would be left by either way of taking the proportions, even if the benefit of the compounded Subscriptions be confined to the existing Retired Members, without reference to any who may expect the same privilege hereafter.

177. I do not wish to appear to dictate any proposition to the Managers as all the facts are before them for their judgment. But I would venture to suggest, that looking at all the liabilities, present and future, the proposition to allow Retired Members to compound for one-half the value of their Subscriptions, Ordinary and Additional, would be as far as it is prudent to go on the present occasion, reserving the questions of the increase of the benefits to children till another quinquennial valuation. This would enable the Managers to see what would be the effect of this measure as well as that of altering the proportions in which the charges are made to the Ordinary and Additional Capital.

178. The cost of this proposition may be estimated as follows :

	Ordinary.	Additional.
	Rs.	Rs.
Para. 92. Value of subscription of Retired Members lost to the Fund, ...	3,19,331	3,01,478
Para. 104. Deduct half the value of the Compounded Subscriptions,.....	1,52,942	1,13,579
	1,66,389	1,87,899

(Para. 110.)—Half the present estimated value of Subscriptions of Retired Members who have already compounded, ...	51,594	37,137
(Para. 121)—Half the estimated value of the amount lost to the Fund by Members compounding hereafter,.....	1,01,430	1,55,560
	3,19,413	3,80,596

179. The effect on the Surplus of carrying it out will be as follows :

Valuations, April, 1868.

	Ordinary 60 per cent.	Additional 40 per cent.		Ordinary 66 per cent.		Additional 34 per cent.	
	Rs.		Rs		Rs.		Rs.
Surplus, ...	0,51,658	Deficit,	5,62,650	Surplus,	4,68,886	Surplus,	3,06,619
Deduct, ...	3,19,413	Add.	3,80,596	Deduct,	3,19,413	Deduct,	3,80,596
Surplus,.....	7,32,245	Deficit,	9,43,246	Surplus,	1,49,473	Deficit,	73,977

It thus appears that by the valuation, at 60 and 40 per cent., this proposition would leave the Surplus in the Ordinary branch 7,32,245 Rupees but increase the deficit in the Additional branch to 9,43,246 Rupees.

Converting the former into 5 per cent. Stock 11,71,592, and writing off the latter thereby, it would leave a Surplus of 2,28,346 Rupees in the nominal 5 per cent. Stock.

By the valuation, at 66 and 34 per cent., it would leave a Surplus of 1,49,473 Rs. in the Ordinary branch and a deficit of 73,977 Rupees in the Additional branch.

By the same process as before, this would leave $1,49,473 \times 1{\cdot}6 = 2,39,157 - 73,977$ or a Surplus of 1,65,180 Rupees in the nominal 5 per cent. Stock.

180. Having given, as nearly as I could estimate it, the actual cost of each proposed benefit, I leave it to the judgment of the Committee to consider what may be the best way of disposing of the Surplus ; merely drawing attention to the important fact that, if the proportions carried to the charge of Ordinary and Additional Funds, vary much at each valuation, the Surplus may be expected to be subject to great fluctuations, and it would be imprudent, in my opinion, to divide so close as to risk again the future safety and the prosperity of the Fund. It has evidently made great advances during the last five years ; but the Report of the Managers points out very properly, several exceptional causes of the rapid success, and indicates how advisable it would be for the Members not to expect too large increase of benefits or reduction of Subscriptions until this favorable state of affairs has been confirmed by longer experience.

I have the honor to be,

GENTLEMEN,

Your obedient Servant,

SAMUEL BROWN,

Actuary.

GUARDIAN ASSURANCE OFFICE,
11, LOMBARD STREET, LONDON,
22nd January, 1870.

REPORT

ON THE

BENGAL CIVIL FUND.

To

THE MANAGERS OF THE BENGAL CIVIL FUND.

GENTLEMEN,

Having been favored by Messrs. Coutts and Co., under your letter to them of the 7th July 1863, with instructions to examine into the condition of the Bengal Civil Fund, and make a valuation and Report thereon, and on the various questions connected with the Institution to which attention was requested, I proceeded to examine the various papers which they sent to me on the 26th August.

2. Amongst these documents I found a letter from the Secretary of the Fund, specifying the following as the principal objects of the reference to the Actuary, on which he was requested to report :—

I.—On the state and prospects of the Institution generally.

II.—On the question of the proposed reduction of rates of subscription, of which a resumè is given in Appendix XIII of the printed Report.

III.—On the question of the acceptance of a fixed Annual Donation, in lieu of the additional interest, suggested by the Secretary of State for India, discussed in the Committee's Report, pages 1 to 6, which will be found marked as enclosure I.

IV.—On the special questions of the transfer of certain funds from the "Additional" to the "Ordinary" branch of the Fund, discussed in Appendix XII of the Report.

3. The Report here alluded to is a very valuable paper by the Honorary Secretary (Mr. A. M. Monteath), containing a brief history of the Civil Fund from the date of its establishment, with remarks as to its financial progress, brought down to the commencement of the year 1863. It contains not merely a clear and simple account of the changes in the Rules and Constitution of the Fund, but a careful analysis of the valuations by the Actuaries, Messrs. Griffith, Davies, and Neison, to the 1st January 1850, and the comparative results of three valuations, 1853, 1858, and 1862, which the Secretary has taken the trouble to make on the same principles throughout, so that they may bear an accurate comparison together, and exhibit the progress of the Fund since the great

changes effected in 1850. This Report, with its Appendices, contains a mass of important information in a very small compass.

4. The other documents, K, L, M, N, P, and Q, comprised a variety of original observations by which the Tables of mortality and marriage used by Messrs. Davies and Neison in 1850 might be checked and corrected to a certain extent by the actual experience of the Fund since that date. There was still wanting, however, for the purpose of forming a new Table for the valuation, a nominal List of Subscribers, active and retired, living 30th April 1863, with their ages, rates of subscription, &c. This I applied for and received from the Secretary through Messrs. Coutts on the 22nd March last.

5. On a careful examination of these voluminous papers, it was evident that they afforded materials for the correction of the Tables of mortality formerly used; that for the last thirteen years at least the statistical records of the Fund had been so carefully kept that much new light might be thrown on the actual condition of the Society, and that, by their aid, some parts of the valuation might be made by new and improved methods. In considering, therefore, the first head of enquiry, "the state and prospects of the Institution generally," I propose to divide it into two parts—

A. Description of the original data obtained from the experience of the Fund, and of the Tables of money values deduced therefrom.

B. The method of valuation employed to show the position of the Fund on the 30th April 1863, and the general results thereof.

6. One of the most important questions at the very commencement of the enquiry is as to the Table of mortality which ought to be used, as most nearly representing the rate prevailing amongst the members of the Fund.

7. In Mr. Davies' Report he states that not having the means of forming a Mortality Table from the Records of the Fund, he had taken for the ages under 40, a Table which he had made in 1842, for the Bengal Uncovenanted Service Family Pension Fund, of the mortality in the Bengal Civil Service from the lists of Messrs. Dodwell and Miles, which shows the mortality under that age to be somewhat lower than that expressed by the Northampton Table, and somewhat higher afterwards. But considering that soon after that age the members began to return to this country on their retirement, he had completed his Table from 40 to the end of life by the Northampton Table itself. Mr. Neison, in his Report, December 1852, throws doubt on the lists of Dodwell and Miles, which he considers are mere Directories, but alludes to a Register of the Civil Servants of the Bengal Civil Service from 1790 to 1842, compiled, under the direction of the Hon'ble H. T. Prinsep, by Ramchunder Doss, as data to be relied on in computing the rate of mortality in the Bengal Civil Service for the period alluded to. The total number exposed to risk from age 20 to 71, was 17,302, the deaths 398 = 2·30 per cent. But it had been clearly shown by the experience of the Military Funds that the rate of mortality in India had considerably diminished of late years, and as it was desirable to ascertain if the same result had been observed in the Civil Service, he analysed the data, and divided them into classes of members who entered the Civil Service in decennial

periods from 1790 to 1842. The result was to show a diminution in the rate during the more recent periods; but as by so many subdivisions the facts became too few in each for fair comparison, it is better to confine the division to the two periods 1790—1819 and 1820—1842, the results of which are as follows :—

BENGAL CIVIL SERVICE.

Members arriving in India in the years

	1790—1819.			1820—1842.		
AGES.	Exposed to risk.	Died.	Mortality per cent.	Exposed to risk.	Died.	Mortality per cent.
21-25	2,897	51	1·76	2,006	41	2·04
26-30	2,554	50	1·96	1,528	30	1·96
31-35	2,245	40	1·78	975	10	1·03
36-40	1,937	48	2·48	285	4	1·40
	9,633	189	1·9[illegible]	4,794	85	1·77

At the younger ages the rate of mortality appears to have increased somewhat, or to have remained stationary, but at the ages above 30 a considerable diminution may be observed.

8. In regard to the rate of mortality amongst retired members, Mr. Neison states that he had been enabled from Official documents in the East India House to which he had been permitted access, to trace the deaths of Military Retired Officers, and that he had also found that for all practical purposes the rates for Retired Civil Servants were identically the same, and that both accord very nearly with the mortality above 45 of the general population in England and Wales. Observing that on the whole Mr. Davies' Table differed very little under the age of 40 from the facts obtained by analysing the List of the Bengal Civil Service above referred to, (though this is somewhat contrary to his assertion that the facts in Dodwell and Mills are not to be depended on,) he formed a new Table of Mortality, taking as the basis after the age 45 his table of the Bengal Military Fund in 1849, which in fact is the same as for the general population of England and Wales, below 40 Mr. Davies' Table I, and interpolating for the ages 39 to 45. The effect of this combination is to show an improvement in the duration of life amongst the retired members, but it will be noticed that the rate of mortality is very irregular between 40 and 55; rising to age 47 and then falling again to age 53.

9. Amongst the documents forwarded to me by the Secretary were two marked K and P, the former being a Statistical Register of Members of the Bengal Civil Service who entered since 1790 complete to 1862 inclusive, with the dates of arrival, of deaths, of retirement, of exclusion from any other cause, and of death, if annuitant, with the age last birth day at each date; the latter being a set of abstracted results from the former, which had been placed at his disposal by the late Honorary Secretary Mr. Harrison. These two important papers enabled me to form new Tables of Mortality,

and to compare the results in groups of years. As the summaries are worth preserving, I subjoin in Table I the observations of mortality for every age in each decennial period from 1801 to 1858 and in Table 2 for the two periods 1801 to 1830 and 1831 to 1858, and for the whole period combined 1801 to 1858. The total number who entered is given as 1215, of whom 379 died, 242 became annuitants, 86 withdrew from other causes, and 508 were living at the close of the observations to the end of 1862. Table 3 shows the mortality amongst the annuitants retired from the Civil Service, and as they comprise 287 entrants, which is in excess of the number given above, they probably include the years from 1790 to 1800. Of this number, 99 died and 188 were surviving at the date of observation.

10. By combining the two Tables just described, we may form a very complete Table of Mortality for the Bengal Civil Service for the whole duration of life, and as it formed the basis of the Table actually used in the valuation, I here subjoin the summary in each quinquennial period of age, and the rates of mortality as compared with previous Tables in use. The number exposed to risk is the number who entered upon a year of age less half of all who either entered or were withdrawn from observation by death or any other cause in the year. The rates per cent. for the Bengal Civil Fund are taken from the actual experience for 13 years from 1st January 1850, which I will presently explain, and for the Madras Civil Fund 1790 to 1853 from the recent and important Report of the Commission on the sanitary state of the Army in India.

11. **Abstract A.**

Rates of Mortality per cent.

Bengal Civil Service Active and Retired Members.									G Davies' Bengal Civil Service used in 1850.	Madras Civil Service, 1790 to 1853.	Farr's Healthy Life Table.
Ages	Exposed to risk.	Died.	Mortality per cent. from 1801 to 1858.	Mortality per cent from 1801 to 1830.	Mortality per cent. from 1831 to 1858.	Ditto Amongst retired from 1801 to 1858.	Mortality for 13 years to 1863.	Of whom were killed in the mutiny.			
15	893·5	20	2·24	2·19	2·44	...	.....	.....	.....	.....	·72
20	4897·0	81	1·65	1·78	1·48	...	1 07	·41	1·41	1·40	·92
25	4309·5	87	2·02	2·20	1·73	...	1·80	·61	1·59	1·52	·99
30	3109·5	50	1·47	1·57	1·24	..	1·51	·44	1·77	1·55	·96
35	2607·0	57	2·19	2·00	2·81	8·00	1·88	·55	1·94	1·63	1·24
40	2072·0	43	2·08	2·02	3·01	1·08	1·08	·32	2·24	1·79	1·21
45	1593·5	28	1·76	2·19	...	1·14	2·16	·23	2·52	2·04	1·70
50	1101·5	28	2·54	4·29	...	1·81	2·46	·16	3·04	2·52	1·85
55	813·0	22	2·71	3·77	...	2·55	2 07	.....	3·59	2·84	2·86
60	563·0	24	4·26	18·18	...	3·70	4·26	.....	4·32	2 97	3·40
65	321·5	20	6·22	...	...	6·25	7·79	.....	5·43	3·57	5·71
70	142·0	9	6·34	...	...	6·34	14·29	.....	7·46	5·05	7·34
75	43·0	9	20 93	...	...	20·93	100	.....	10·81	8·50	12·59
80											
			2·10	2·04	1·70	3·05	1·76	·41			
Exposed to risk	22766	478	22766	13887	5631	3218	7625·5				
Died ...	.....	...	478	283	96	99	134	31			

It will be observed that with the exception of a very low rate of mortality at ages 40 to 45, the mortality actually experienced in the Fund for the last 13 years does not differ much at some ages, but is on the whole 15 per cent. more favorable than for the Civil Service generally for the total period 1801 to 1858, the average rate of the former being 1·76 per cent. at all ages, and of the latter 2·10 per cent. I therefore thought it safer to take the more extended series of observations as the basis of the valuation.

12. Through the kindness of a friend, I have been favored with a copy of Mr. Prinsep's original Table, which shows the rate of Mortality, Resignation, and Retirement when compared with actual years of service in India amongst the members of the Bengal Civil Service for the 52 years 1790 to 1841 inclusive. It is carried out with great minuteness, but in Table 4 the results are sufficiently shown in complete years of life at risk for each year of service, and also a summary for every quinquennial period of service. The objects of the comparison in the following Table is to show the relative mortality in the Bengal and the Madras Civil Service according to periods of service in India, the latter being taken from Mr. Neison's Report of 20th July 1855.

Abstract B.

	Bengal Civil Service.				*Madras Civil Service.*	
		1790 to 1812. Rates per cent.			1792 to 1854.	
Years of Service.	Exposed to Risk.	Died	Resigned.	Retired.	Exposed to Risk.	Per cent. Died.
0	4110	2·16	·51		3320·0	1·39
5	4178	2·08	·79		2863·5	1·64
10	3366	1·37	·59		2444·0	1·31
15	2338	2·61	·98	·04	2052·0	1·85
20	1628	2·95	1·90	·06	1675·5	1·91
25	914	3·49	·95	5 82	1326·5	1·81
30	464	4·31	1·51	7·54	1069·0	2·53
35	183	5·46	.....	10·38	836·0	2·75
40	72	2·78	2·78	11·12	613·5	3·26
45	18	11·11	.....	.....	425·0	2·59
50	4	.....	.....	.....	285·5	4·55
55	.....	.....	.....	.....	150·5	8·64
60	.....	.....	.....	.....	39·5	17·72
65	.....	.....	.....	.....	7·0	14·29
70-75	.....	.....	.....	.....	1·0	100·00
TOTAL	17305	2·30	·84	·69	17108·5	1·96
NUMBERS		398	146	119		335

13. In the Bengal Civil Service the average age of arrival in India on the whole period was about 18½, but it appears to have steadily increased, and has latterly reached nearly 20. By assuming the latter age as the commencement of observation, the mortality for the first 15 years does not differ much from the Tables Nos. 1, 2, 3, but afterwards is considerably higher than in the more recent experience, 1801 to 1858. The retirements under 25 years' service are very few, afterwards they increase rapidly up to 40 and 45 years' service, when the rate shown is 11 per cent. per annum, and the mortality at the same period, probably from the state of health in some degree influencing retirement, is greatly reduced.

14. Before explaining the formation of the graduated Table of Mortality, I proceed to exhibit the original data which were obtained from the actual experience of the Fund during the 13 years from 1st January 1850 to 1st January 1863, by analysing and classifying the facts contained in the documents L, M, and N. This was a work of considerable labor and occupying much time, but many of the results are quite of a novel character and throw light on many questions which are constantly occurring in connection with the condition and prospects of the Fund. If the records be kept up for a few more years in the same careful manner they will be still more valuable from the safer averages that may be computed from them.

The results are shown in Tables Nos. 5 to 16.

15. To begin with the annuitants, Tables Nos. 5, 6, and 7 show the mortality and marriages which have been observed amongst the widows and daughters of deceased members, and the mortality amongst sons up to 21 years of age, amongst all who were living on 1st January 1850, or have been admitted annuitants in the 13 years since that date. The facts are all recorded as at the ages last birth-day, and consequently in obtaining the number exposed to risk, half only of those who were living on 1st January 1863 will have to be counted as living through the age at which they are taken off from observation. In this respect they would differ a little from those stated by Mr. G. Davies, who classified them under years of birth. Some of the withdrawals may be attributed to the fact that families may have come into property producing incomes greater than the Fund allowance, and thus the names would be removed from the list.

16. When divided into quinquennial periods of age, the rates are somewhat irregular, but in decennial periods of mortality the rate of mortality amongst the widows is well graduated and is at nearly all ages below that of the English Healthy Life Table, even to the extent of from 15 to 25 per cent. better.

17. The rate of marriage appears to be somewhat less than that shown amogst the widows of the Madras Military Fund.

18. The number of deaths amongst the children who have become annuitants, is too small to form an available Table by itself; but the rate of mortality does not appear

to differ much from that of the same age in the best classes in England. It will be better to compare the results by combining them with those deduced from the children of the living members.

19. The facts relating to the members of the Bengal Civil Service Fund are comprised in the following Table No. 8. They are divided into Active and Retired, and under each of the three classes, bachelors, married men, and widowers, are shown the numbers who entered, lived, died, withdrew, or were living 1st January 1863. Amongst the bachelors and widowers the numbers who married are also exhibited; and amongst the married men, the numbers who become widowers. The entries comprise those who were living at each age on the 1st January 1850, or who afterwards entered in the 13 following years to the 1st January 1863.

20. The summary in quinquennial periods of age comprises all the facts above stated grouped together, and with the percentage for each calculated upon the number exposed to risk. This latter number is obtained by deducting from the total number who lived over each age half of all who entered or were withdrawn from observations by death, or any other causes, except those who were living at the close of the observations on 1st January 1863. As the ages are taken from the years of birth to the year of the given event, they really represent (if m be taken as the actual age in any year,) the age $m - \frac{1}{2}$ to $m + \frac{1}{2}$ as the year of life observed, and consequently those who were living when the observations closed had passed over the whole of the last recorded year of life.

21. With these explanations it may be stated that the facts are presented in the most complete form for which they are available, and that the only collection which has hitherto appeared of the same character is in a paper which I had the honor of reading before the Institute of Actuaries in which similar Tables were deduced from the experience of the Madras Military Fund. I fear, however, that the percentages at each quinquennial period are too irregular to be available at present for computing New Valuation Tables from the experience of the Fund, but they have assisted greatly in forming a judgment as to the probable correctness of those in use. They point also to the importance of continuing the records of the facts in the same form for a few years longer. The present Tables might then become valuable as models for exhibiting the results of the more extended enquiry.

22. In a further summary in quinquennial ages the three classes are combined under the heads of Active and Retired, and the percentages of death, withdrawal, or retirement in the former, and of death or withdrawal in the latter, shown at each group of ages, the final results being embodied in the small Table included for comparison in **C.**

23. The total number who were living as bachelors on the 1st January 1850 appeared to be 213, and 386 entered as bachelors since. Of these, 45 died (14 of whom were killed in the mutiny), 23 withdrew, 215 married, 42 retired, and 244 were living 1st

January 1863. Of the 42 who retired, 4 died, 16 withdrew, 6 married, and 16 were living 1st January 1863.

24. Of the married members there appeared to be 249 living on the 1st January 1850 of whom 29 were widowers who had re-married. Of those who entered since, six entered the Fund as already married, 245 already mentioned were bachelors who married, 19 entered from the widowers' list by re-marriage, (of whom one was married for the third time), making a total of 519. Of this member 60 died (of whom 15 were killed in the mutiny,) nine withdrew, 47 became widowers, 120 retired, and 283 were living 1st January 1863. Besides the 120 who retired, 6 bachelors and 4 widowers married after retirement, making a total of 130, of whom 15 died, 5 withdrew, 6 became widowers, and 104 were living 1st January 1863.

25. Of the widowers, 24 were living 1st January 1850, and 47 became widowers since, total 71. Of these 9 died (2 being killed in the mutiny,) 27 remained, 14 retired, and 21 were living 1st January 1863. Besides the 14 who became widowers whilst on active service, 6 became widowers after retirement. Of these 20, 1 died, 1 withdrew, 5 again married, and 13 were living on the 1st January 1863.

26. Although the percentages in quinquennial periods of age are very irregular, yet if we group them together in decennial periods, the differences are merged in a sufficiently even graduation, as is seen in the following comparison of the rates of mortality:—

Abstract C.

Rates of Mortality.

Ages.	Bengal Civil Service, entered 1801 to 1858			G Davies Table used in 1850 at mean age	Bengal Civil Fund, 13 years, 1850 to 1862 inclusive.			Bengal Civil Service, married members only, active and retired			Farr's healthy life, males.	Bengal Civil Service, 1790 to 1842	
								Rates per cent.					
	Active	Retired	Both		Active	Retired	Both	Died	Became Widowers	Both		Years of Service.	Rate of Mortality
15	1 74	.....	1 74	1 18	1 07	.....	1·07	...	2·08	2·08	69	0·5	2 16
25	1 78	.....	1 78	1 69	1 68	.....	1 68	1 47	1 54	3·01	·82	5·15	1 76
35	2 14	1·87	2 14	2 09	1 49	.....	1 48	1 51	1 36	2 87	93	15 25	2 75
45	2 68	1·51	2·08	2 84	2 63	1 74	2 29	2 32	·71	3 03	1 27	25 35	3 76
55	6 25	3·04	3 34	4 02	3 90	2 14	2 68	2·25	1·50	3 75	2·59	35·45	4 71
65	... ..	6·28	6 26	6 50	.....	5·66	4 84	4 44	....	4 44	5 49	45 52	9 09
75	.....	20·93	20 93	13 43	22 22	20·	20 67	20	.....	20·	12 82		
85	.....	.....	...	26 09	22·22	.... .	...	...	.....	...	28 35		
95	.....	.....	...	.....	.....	... .	...	...	.....	...	40		
	1·94	3·05	2 10	.....	1 69	2·24	1 76	1 78	1 26	3 04	1·77	.....	2 30
Exposed to risk...	19518	3248	22766	.. ..	6743	892·5	7635·5	...	.....	4221 5	433525	.....	17305
Died ..	379	99	478	. ...	114	20	134	75	53	128	8747	... .	398

On this it may be remarked that the mortality in the Civil Funds during the last thirteen years to 1st January 1863, shows favorably at most ages compared to that of the Civil Service generally for the 58 years to 1858, especially at the middle ages of life 35 to 45 and that the average of mortality is generally a constant of about one per cent. per annum at all ages on 100 living in the middle of the year above the rate of the English Healthy Life Table.

27. The column which shows in the Bengal Civil Fund the rate at which the members died, or became widowers, shows virtually the duration of married life, or in other words, would form the basis of a substitute for the joint life table of husband and wife, and would much simplify such calculations when needed, if the observations which are now only for thirteen years should be continued long enough to form safe averages.

28. Mr. Davies' Table used for the valuation in 1850, exhibits at ages 45 to 55 a much higher rate of mortality than that shown in column three, which is the basis of the Table formed for the present valuation.

29. The next Table No. 9 comprises the facts relating to the wives of members who were either on service in India during the thirteen years, or were retired annuitants. It appears that 239 wives were living at different ages on 1st January 1850, and 269 entered since, of whom, eight were married before their husbands joined the Fund. Of the total 508, 45 died or were killed in the mutiny, 14 withdrew, 57 became widows, (12 of them in consequence of their husbands being killed in the mutiny,) 115 were wives of members who retired, and 274 were living on 1st January 1863. Nine members married after retirement, making a total of 124 wives on the retired list, of whom 6 died, 14 became widows, and 104 were living on 1st January 1863.

30. The total facts are given in the Table for every age and also a summary in quinquennial periods of age, but it is sufficient for the purpose of comparison to show here the percentage in decennial periods of age.

Abstract D.

Bengal Civil Service, 13 *years,* 1850 *to* 1862 *inclusive. Mortality amongst Wives and Widows.*

Ages.	Wives.					Widows			Both.			Griffith Davies' used in 1850.	Farr's healthy life.	Madras Military Fund 1808 to 1850.		
	Exposed to risk.	Died.	Rate per Cent	Become Widows.	Rate per Cent.	Exposed to risk	Died.	Rate per Cent.	Exposed to risk	Died	Rate per Cent			Wives.	Widows.	Both
15	768	16	2 08	15	1·95	14	..	.....	782	16	2 05	·85	·77	1 74	·65	1 68
25	1733 5	24	1 39	21	1·21	151	1	66	1884 5	25	1 33	1 31	·89	1 23	1 51	1 28
35	1053 5	10	95	20	1 90	262 5	2	76	1316	12	·91	1 89	1 00	1 36	1 17	1·30
45	472 5	2	·52	11	2 33	298·5	3	1 01	771 5	5	·65	2 68	1 19	87	1 72	1 29
55	105 5	2	1·90	4	3 79	325 5	6	1·84	431	8	1 86	3 80	2 16	1 86	1·87	1 72
65	2	...	...	...	...	94	3	3 19	96	3	3 13	6 33	4 99	...	4 08	3 30
75	... ..	...		...	. }	24 5	3	12 24	24 5	3	12 24	12 99	11 87	.. .	11 20	10 61
85-88	.....	...	..	...	.. }											
	4135	54	1 31	71	1·72	1170	18	1 54	5305 5	72	1 36	Exposed to Risk Died		1 34 22124 5 300	1 68 8143 5 140	1·43 30768 440

31. This Table presents some remarkable features. The mortality amongst the wives of members of the Bengal Civil Fund begins with the highest rate at the youngest ages 2·08 and steadily diminishes to the ages 45 to 55 when it shows only 52, or little more than half per cent., and less than half that of healthy life in England. In this respect it singularly corresponds with the mortality amongst the wives of Military Officers in the Madras Military Fund 1808 to 1858, which, as shown in my recent report, beginning at 1·74 per cent. at ages 15 to 25 diminishes to ·87 per cent. at ages 45 to 55. On the other hand, the rate of mortality amongst widows in the Bengal Civil Fund steadily increases throughout life, but is generally nearly twenty per cent. better even than that shown by the English Healthy Life Table, and very much below that in the Table used by Mr. Griffith Davies for the valuation of 1850. But had this Table been corrected thereby, it would have shown the joint duration of life of husband and wife greater as well as the survivorship duration in widowhood, and on the whole I considered the facts too few, and the experience too short to adopt it as the basis of a New Table at present. But it is evident from the novelty of the results that the observations ought to be continued in the same form for a few years, which may lead to a future revision of the Tables. The average mortality of females at all ages does not differ much in the Bengal Civil Service when compared with that of the Madras Military Service, being for wives 1·31 and 1·34 per cent., for widows 1·54 and 1·68 per cent., and for both combined, 1·36 and 1·43 per cent.

32. The Column showing the rate per cent. of wives who become widows may become an important one hereafter in substitution of the Joint Life Table, and form the basis of a new valuation of the contingent pensions to the wives of existing members.

33. I now proceed to the question of mortality amongst the children of members, and first as to the rates of mortality of sons of living members as shown by Tables 10 and the summary in quinquennial periods of age. The number of sons who were living on 1st January 1850 was 397, and 571 were born since, either of parents then married, or who married since that date. The observations on the latter cannot of course be carried beyond 13 years of age. Of the total 968, 100 died, (of whom three were killed in the mutiny,) 160 withdrew at different ages or attained 21, 100 were pensioned, (of whom 20 were provided for by the Government,) and 608 were living 1st January 1863.

34. The results may be compared with the former Table No. 6 of Male Children pensioners, and also with a similar Table for the Madras Military Fund, 1808 to 1858, and with that used by Mr. Davies in 1850.

Abstract E.

Mortality per cent. amongst Sons.

Ages.	Bengal Civil Fund, 1850 to 1863.			Madras Military Fund, 1808 to 1858.			G. Davies' Table used in 1850.
	Sons of living Members.	Annuitants.	Both.	Sons of living Members.	Annuitants.	Both.	
0	6·78	.....	6·64	9·23	4·00	9·14	6·35
1	7·06	.....	6·92	5·65	5·56	5·64	3·90
2	2·85	.....	2·77	2·27	2·59	2·29	2·92
3	1·25	.....	1·20	1·45	·59	1·39	2·01
4	·44	.....	·42	·81	·89	·82	1·47
0	3·54	.....	3·44	3·63	1·81	3·53	2·92
5	·44	·77	·46	·47	·82	·53	·80
10	·37	·85	·43	·21	·30	·23	·61
15	·31	·37	·32	·48	·72	·56	·75
20-21	1·57	.....	1·23	1·15	·96	1·09	·85
	1·43	·54	1·34	1·64	·73	1·47	
Exposed to Risk	7013	738	7751	27688	6163	33851	
Died ...	100	4	104	453	45	498	

It will be observed that in periods of 5 years of age, the results under 10 do not differ much from those of the Madras Military Fund, and at all ages up to 21 the average rate of mortality in the former was 1·34 per cent., in the latter 1·47 per cent. The comparison of Mr. Davies' table is given at the mean ages, and after 2 years of age the recent experience of the Fund shows itself better than Mr. Davies' table assumes.

35. In Table No. 11 the mortality and marriage rates amongst the daughters of living members may be traced and compared with those of female children who have become annuitants.

Of daughters, 367 were living 1st January 1850, and 513 born since, total 880. Of these 80 died, 3 being killed in the mutiny, 13 withdrew, 64 were married, 104 were pensioned (7 of whom were provided for by the Government), and 619 were living on 1st January 1863.

Abstract F.

Mortality per cent. amongst Daughters.

	Bengal Civil Fund, 1850 to 1863.			Madras Military Fund, 1808 to 1858.		
Ages.	Daughters of Living Members.	Annuitants.	Both.	Daughters of Living Members.	Annuitants.	Both.
0	6·20	.....	6·12	7·91	4·00	7·84
1	5·70	12·50	5.82	5·32	5·37	5·32
2	3·33	9.52	3·48	2·51	4 67	2·63
3	1·02	.....	.99	1·43	1·77	1·45
4	·54	.....	·52	1·33	1·48	1·34
0	3·27	4·04	3·29	3·51	2·83	3·47
5	·52	.....	·48	·58	·49	·57
10	·15	·43	·19	·36	·21	·32
15	·77	·32	·06	·68	·37	·56
20	.....	·84	·37	·78	·64	·71
25	.....	·68	·45	·64	·63	·60
30	.....	·85	64	.....	·51	·39
35	.....	1·63	1·13	.....	·77	·71
40	.....	3·23	1·96	.....	·63	·61
45	.....				1·23	1·18
50	.....				2·70	2·70
55	.....				6·25	6.25
Total per cent.	1·25	·75	1·17	1·63	·64	1·40
Exposed to Risk ...	6381·5	1330	7711·5	27257·5	8479	35737·5
Died ...	80	10	90	445	54	499

From this Table, it would appear that the mortality amongst daughters has been remarkably small at all ages, and generally less than that in the Madras Military Fund, the average of the former being 1·17 per cent., and of the latter 1·40 cent. But amongst annuitants only, the latter is more favorable at nearly all ages, the totals being ·75 and ·64 per cent. respectively. The observations in both cases close at about 60 years of age.

36. In relation to the rate of marriage amongst unmarried daughters as compared with that amongst the widows of the Fund, the following Table presents the result of the 13 years' experience; amongst the daughters no marriages are recorded after 35 years of age, though some amongst the annuitants had lived till 60, and amongst the other class till 47. But amongst the widows one marriage is recorded between 50 and 55, and the number living is, in all the classes, the number included between the ages 15 and 60.

Abstract G.

Bengal Civil Fund, 1850 *to* 1863.

Ages.	Marriages per cent. amongst				Widows.	
	Daughters.			Widows.	G. Davies' Table in 185) at mean age.	Mr. Neison's Table at mean age.
	Of living Members.	Annuitants.	Both.			
15	2·98	2·27	2·80	..	4·00	5·00
20	10·00	9·28	9·69	7·14	7·60	5·50
25	5·26	4·73	4·91	3·92	5·20	3·51
30	5·19	2·54	3·19	3·00	3·20	3·05
35	.....	.....	...	·76	2·20	1·88
40	.....	.....	...	...	1·30	·88
45	.....	.....	...	...	1·00	·79
50	.....	.....	...	·57	1·10	1·32
55						
15-60	4·65	4·32	4·52	·88		
Number living	1377	903·5	2280·5	912		
Number who married	64	39	103	8		

The proportion of marriages among the annuitants was somewhat less at all ages than amongst the daughters of living members, and at the age of the highest rate between 20 and 25 was a third more than the rate amongst widows at the same ages. Mr. Davies' Table is sufficiently near an approximation to either one or the other to be depended on; but Mr. Neison's Table between the ages 20 and 30 appears to show too low a rate of marriage.

37. The proportion of bachelors marrying at different ages, and the corresponding ages of the wives, is a question of some importance in reference to the liabilities which are thereby entailed on the Society. I have therefore classified in Table No. 12 the total

number of bachelors, who married in the 13 years 1850 to 1862 inclusive, whose ages together with those of their wives were recorded at the date of marriage. The number recorded in the previous Tables was 245 on active service, and 6 who married after retirement, but in 9 cases the ages of the wives were unrecorded. The average age of a bachelor at the time of marriage appears to be a little over 28 years, and of the first wife a little over 22, a difference of 6 years, and the following Table shows, out of the total number who married, the proportion per cent. who married in different quinquennial periods of age, and also the proportion of wives in the like quinquennial periods of age.

Abstract H.

Proportion of Bachelors marrying at different quinquennial ages.

Age of Husband.	Age of Wife.					Total per Cent.	Total number of Husbands.
	17.	20.	25.	30.	35-40.		
20	10·6	21·7	2·9	·4	...	35·7	87
25	7·4	19·3	4·5	·8	...	32·0	78
30	5·0	10·2	2·5	2·1	1·2	20·9	51
35	·8	2·5	2·1	...	...	5·3	13
40	1·2	...	·8	·4	...	2·5	6
45	...	...	·8	1·2	·4	2·4	6
50	...	·4	...	·4	..	·8	2
55	·3	...	...	...	..	·4	1
	25·4	54·1	13·6	5·3	1·6	100	
Total number of wives	62	132	33	13	4	..	244

38. The ages of the husbands were between 20 and 58, but of the wives only between 17 and 36, and the remark respecting the living married members, that the discrepancy of age at marriages increases with the more advanced age of the husband is confirmed by the following results of this Table:—

Age of Husbands.	Bengal Civil Fund.		Madras Military Fund.
	Average age of wife.	Difference.	Difference of age.
20	21·1	1·4	1·2
25	21·9	5·6	9·1
30	23·2	9·3	9·0
35	23·5	14·	12·6
40	23·2	19·3	16·9
45	31·2	16·3	20·5
50	27·6	25·	23·7
55	19·	38·5	22·2

This increasing discrepancy of age at date of marriages may be compared with similar averages deduced from the averages of 1,706 bachelors in the Madras Military Fund in which the average age of the husband on marriage was 30 and of the wife 23, a difference of seven years.

39. Another useful enquiry is as to the ages at which the widows and children of members have been admitted to pensions. The averages in the 13 years under review must be somewhat disturbed by the proportion of married members killed in the mutiny, yet they may afford some useful deductions, and I have accordingly classified in Table No. 13 the widows, sons, and daughters admitted to pensions by their ages on such admission. The total number of widows was 75 (of whom the husbands of 12 were killed in the mutiny) or 5·8 per annum. The average age of the 63 was 37·6 years, and of the 12 was 30·6 years at date of admission. Some of the former were as young as 20, and some had attained the age of 67, but the latter were from age 19 and all under 44.

40. The total number of sons who became Pensioners in the 13 years was 107, and of daughters 110, being an average of 16·7 children in each year. There were 21 widows without children, and to the remaining 54 there were 93 sons and 92 daughters, or an average of 2·5 children to each of the 75, whilst 14 sons and 18 daughters had lost both parents. The proportion above given differs very little from that found in the families of living married members in the Madras Military Fund, which was 1·17 sons and 1·24 daughters, total average 2·41 for each wife.

41. In the Bengal Civil Fund the average age of sons, at the death of the father, if the mother was living, was 7·9 years, and if both parents were dead, 11·5 years. Of daughters, the average age was 9·7 if the mother was living, and 15·1 if both parents were dead.

42. Of those whose fathers were killed in the mutiny, the average ages at the date of admission were exceptional, being for sons in the two former cases 6·4 and 12·5 years respectively, and for daughters 8·4 and 10·5 years.

43. Mr. Davies' Report on the state of the Fund, on 1st January 1850, enabled me to analyse the difference in the ages of the wives of then existing members in each quinquennial period of age, together with the number of then existing children corresponding to their age. This is important in estimating the probable number of children that would be left on the Fund if a married member dies at a more advanced period, and has other children added to his family. The results are shown in Table 14, in which the numbers of members living at each age are shown, the ages of their wives, and the total number of their living children.

Mr. Davies deduced from 260 husbands, Active and Retired, whose ages and those of their wives were known the average age of the former as 40, of the latter 33, a

difference of 7 years, whilst the average difference of age between fathers and their children is reckoned as 34 years. There were 914 children living in these families, giving an average of 3·5 to each, or, allowing for 19 who had no children, an average of 3·8 children to each father.

44. But as the discrepancy of age between husband and wife increases, as I have already pointed out, between those who are living in the later periods of life, the following summary shows the actual result in quinquennial periods of age, and also the increase in the average number of living children from 20 up to 45 years of age of the husband when it remains nearly stationary up to 65 years of age.

Abstract I.

Summary of Table No. 14.

Ages of Husbands.	Average Ages of			Actual number.	Number of children.	Average to each family.
	Husband.	Wife.	Difference.			
21	23·0	21·5	1·5	12	6	·5
25	26·9	23·6	3·3	41	62	1·5
30	32·1	27·8	4·3	30	99	3·3
35	37·3	30·2	7·1	53	225	4·2
40	41·8	33·5	8·3	57	255	4·5
45	47·1	40·4	6·7	23	98	4·3
50	51·4	39·5	11·9	14	60	4·3
55	57·0	45·3	11·7	12	47	3·9
60	61·9	53.9	8·0	10	48	4·8
65-70	67·4	44·3	23·1	5	12	2·4
Total ...	39·3	32·4	6·9	260	912	3·5

45. But as this is rather an important question, I have endeavored to give in Table No. 15 a rather more complete statement of a similar kind relating to the married members and their families existing 1st January 1863. The results in quinquennial periods of age are as follows; Active and Retired being combined.

Abstract J.

Bengal Civil Fund.

Summary of Table No. 15, showing in quinquennial periods of age, the numbers of married members and their children, the difference of age of husband and wife, the number of years of marriage, and the average number and age of the children living in each family.

Ages.	Number of Husbands.	Number of Children.			Average Age.			Average years of marriage.	Average Number to each Marriage.			Average Age of		
		Sons.	Daughters.	Both.	Husband.	Wife.	Difference.		Sons.	Daughters.	Both.	Sons.	Daughters.	Both.
20	19	2	7	9	23·1	19·9	3·2	·7	·1	·4	·5	·0	·9	·7
25	57	36	33	69	26·7	24·2	2·5	2·3	·6	·6	1·2	1·	1·5	1·5
30	55	49	57	106	31·9	27·9	4·0	5·5	·9	1·0	1·9	3·2	3·0	3·1
35	70	91	101	192	36·7	30·6	6·1	8·4	1·3	1·5	2·8	5·4	5·1	5·2
	R 1	4	2	6										
40	41	86	96	182	41·4	34·4	7·0	13·0	2·1	2·3	4·4	7·5	8·1	7·8
	R. 2	6	2	8										
45	17	33	24	57	46·9	38·8	8·1	14·4	1·7	1·4	3·1	9·1	10·3	9·7
	R. 10	12	15	27										
50	20	43	33	76	51·8	42 5	9·3	19·6	2·0	1·8	3·8	11·2	12·6	11·9
	R. 46	87	85	172										
55	3	6	6	12	56·0	47·5	8·5	26·1	2·0	1·8	3·8	12·0	14·0	13·2
	R. 25	51	44	95										
60	...	...	18	.....	61·4	50·1	11·3	27·2	·9	1·1	2·0	9·4	15·9	13·1
	R. 16	14	...	32										
65	...	...	...	.....	67 7	56·0	11·7	36·3	·3	1·4	1·7	18·0	27·5	25 6
	R. 3	1	4	5										
70-75	...	...	...	.....	71·5	51·0	20·5	31·0						
	R. 2	...	...	.....										
Total Active ...	282	346	357	703	35·4	30·0	5·4	8·1	1·2	1·3	2·5	6·5	6 3	6·4
Total Retired...	105	175	170	345	54·5	45·3	9·2	22·4	1·7	1·6	3·3	10·6	13·5	12 1
Both ...	387	521	527	1,048	40·6	34·1	6·5	11·9	1·35	1·36	2·71	7·9	8·6	8·3

These data differ in some respects from those in Mr. Davies' Table, although not much in the final conclusions. But the proportion of married members retired is now much greater than before, and I have distinguished the numbers in order to account for some of the differences. In the total active the average age of the husband seems now to be 35·4 years, of the wife 30 years, difference 5·4, but in the total retired, husband 54·5 years, and the wife 45·3 years, difference 9·2 years; in both combined, husband 40·6 years, wife 34·1 years, difference 6·5 years. Mr. Davies' Table gives for the last, husband 39·3 years, wife 32·4 years, difference 6·9 years. All these being the ages last birth-day, six months on the average may be added up to the date of valuation.

46. But in the increasing discrepancy of age between husband and wife, with the more advanced age of the former, the difference is now less at nearly all ages than in 1850; under 45 generally more than one year less than before. This is slightly in favor of the Fund by the duration of survivorship of the wife's life being a little less

than before. Allowing for two exceptions, 25 to 35 and 55 to 60, it may be said that commencing with about three years' difference at ages 20 to 25, the discrepancy of age between husband and wife increases at the rate of one year for every five years on the husband's age from 20 to 65.

47. The average number of children living in each family and consequently likely to be left charges upon the Fund is modified by the circumstance that the sons who have attained 21, and daughters who marry in their parent's life-time, pass from under observations, as well as by the option which is given to the father to subscribe or not for any child as he pleases. The average number, therefore, as might be expected, increases to a maximum till the father's age, 40 to 45, then remains nearly stationary, or diminishes very slowly till about 60, and then rapidly decreases. This is apparent in both Tables, but the last one shows a diminution at all ages, and principally under the father's age, 40, which is again in favor of the Fund in the existing liabilities, though it would somewhat increase those for the future children of existing marriages. The total average number of sons and daughters living in each family and subscribed for is almost exactly equal, 1·35 for each, and both combined, 2·7, is small as compared with the result in Mr. Davies' Table, 3·5.

48. The average age of the children appears 6·4 years if the father is on active service, and 12·1 years if he is retired, although in the latter case the son's age is about 10½, and the daughter's 13½. On the total of both sons and daughters the average is 8·3 years, making a difference between the father and the child of 32·3 years, which Mr. Davies took as 34 years. The average age of the daughters living after the number has attained a maximum, increases much faster than that of sons, because they remain on the list until they are married, whilst the sons pass over at 21.

49. As the Table now presented is taken from greater numbers, and is much more complete in details than that compiled in 1850 from Mr. Davies' facts, I have considered it right to use it in the present valuation for estimating the liabilities to be expected from future children being born to existing marriages.

50. Some useful deductions may be made by bringing together in one point of view the different classes of pensioners, members and their families, entitled to absolute or contingent benefits, who were in existence as shown by the accounts at the three valuations, 30th April 1853, 1858, and 1863. Accordingly in Table No. 16 the numbers of each are exhibited in quinquennial periods of age. But as the total number of members has increased at each enumeration from 538 to 603 and 679 respectively, it would be difficult to follow the changes which may have occurred without reducing all the facts to a common denomination. In the following comparison, therefore, I have shown the relative proportions to 100 total members at each period, including active and retired. Below age 25 the proportions are given for quinquennial periods of age. Above 25, I considered that decennial periods would be quite sufficient for the purpose, and would greatly simplify the comparisons.

Abstract K.

Bengal Civil Fund.

Table (deduced from No. 16) showing to every hundred Members existing at each of the three valuations, 1853, 1858, *and* 1863, *the proportion living in each Class, and in each quinquennial period of age below* 25, *and each decennial period of age above* 25.

	1853.	1858.	1863.
Pensioners, Widows—			
New Rules ...	1·12	4·81	8·10
Old Rules ...	13·57	11·60	9·43
Both	14·69	16·41	17·53
Sons—			
New Rules ...	1·12	4·97	9·72
Old Rules ...	8·18	3·65	·76
Both	9·30	8·62	10·46
Daughters—			
New Rules ...	2·42	8·29	10·75
Old Rules ...	14·31	9·78	7·37
Both	16·73	18·07	18·12
Active Married Members	47·59	44·77	42·42
Sons	83·66	71·46	58·04
Daughters ...	70·27	61·51	58·48
Retired Married Members	6·32	10·61	16·79
Sons	8·55	18·73	30·93
Daughters ...	8·92	18·57	33·14
Unmarried and Widowers without Children	46·10	44·60	40·80
Under Ages.			
Pensioners, Widows ... 20-25	.....	·17	·59
25	2·42	2·15	2·21
35	2·60	3·98	5 01
45	4·83	3·48.	2·80
55	3·90	4·64	4·27
65	·56	1·66	2·36
75-85	·37	·33	·29
	14·68	16·41	17·53

	Ages.	1853.	1858.	1863.
Sons ...	0	·37	1·16	1·47
	5	1·30	1·33	3·09
	10	3·91	2·49	2·51
	15	3·16	3·48	2·80
	20-21	·56	·16	·59
		9·30	8·62	10·46
Daughters ...	0	·19	·66	1·18
	5	2·23	1·33	2·06
	10	2·97	3·15	1·91
	15	3·16	4·64	3·83
	20	4·46	2·65	3·54
	25-35	2·79	3·81	3·39
	35-45	·56	1·49	1·77
	45-55	·19	·17	·29
	55-60	·18	·17	·15
		16·73	18·07	18·12
Active Married Members	20	1·86	2·16	2·50
	25	17·29	17·91	17·68
	35	19·71	12·77	16·20
	45	7·62	11·27	5·60
	55-65	1·11	·66	·44
		47·59	44·77	42·42
Do. Sons ...	0	33·28	24·54	23·87
	5	23·05	21·72	15·76
	10	16·92	15·59	12·08
	15	10·04	9 28	5·89
	20-21	·37	·33	·44
		83·66	71·46	58·04

Abstract K.—*(continued.)*

	Ages.	1853.	1858.	1863.
Active Daughters ...	0	24·36	22·38	25·19
	5	21·19	16·25	15·76
	10	15·43	12·60	10·46
	15	6 88	8·79	4·86
	20	1·86	1·16	2·06
	25-35	·37	·33	·15
	35-45	·18	.....	.....
		70·27	61·51	58·48
Retired Married Members	25	.....	.....	·29
	35	·56	.....	·74
	45	4·28	6·80	8·40
	55	1·11	2·82	6·48
	65	·37	·66	·88
	75-80	.....	·33	.....
		6·32	10·61	16·79
Do. Sons ...	0	2·42	4·31	4·71
	5	2 04	5·97	6·63
	10	2·97	3·98	9·72
	15	1·12	4·14	8·84
	20-21	.....	·33	1·03
		8·55	18·73	30·93
Do. Daughters...	0	1·67	2 98	3·98
	5	1·86	3·65	4·71
	10	2·41	5·31	6·48
	15	1·30	3·32	9·28
	20	·93	1·82	5·60
	25-35	·56	·83	2·21
	35-45	·19	·66	·59
	45-55	.....	.....	·29
		8·92	18·57	33·14

	Ages.	1853.	1858.	1863.
Unmarried Members	15	.....	2·32	.....
	20	15·99	16·91	14·59
	25	17·85	16·42	16·20
	35	8·55	3·81	5·01
	45	3·53	4·81	3·24
	55	·18	·33	1·47
	65-75	.....	.....	·29
		46·10	44·60	40·80
Total Members	15	.....	2·32	.....
	20	17·84	19 08	17·08
	25	35·13	34 33	34·17
	35	28·81	16·58	21 95
	45	15·43	22·88	17·23
	55	2·43	3·81	8·40
	65	·37	·67	1·17
	75-80	.....	·33	.....
		100	100	100

51. This Table presents us with the means of seeing with great facility the changes which during the last ten years have been occurring in the position of the Society, and its actual and contingent liabilities. As all the facts are reduced to their relative proportion to 100 total members living at each valuation, the rate of increase or decrease in each period of five years is at once visible. Thus, under the head of pensioners, we find that the widows under the new rules have increased in the proportion of 1·12 in 1853 to 8·10 in 1863, whilst those under the old rules have diminished in the proportion of 13·57 to 9·43; whilst the total increase of widows living as annuitants to 100 members living has been from 14·69 to 17·53. The increase in the number of children as annuitants has not been in so large a proportion, but the number under the old rules has diminished much more rapidly; sons in the proportion of 8·18 to ·76, and daughters from 14·31 to 7·37.

52. Again, it may be noticed that though the proportion of total married members has increased from 53·90 to 59·20, yet the increase is principally seen in the retired list, in which the proportion has increased from 6·32 to 16·79, whilst on active service it has diminished from 47·59 to 42·42.

53. The proportion of the unmarried members has diminished from 46·10 to 40·80 in every 100 living members, just as the totals of the married have increased, clearly indicating that we must look for a considerable augmentation in the value of the contingent liabilities of the Fund; and allowing for the reduced percentage of subscription from retired allowances, we may naturally infer that the means to meet them must be relatively less.

54. On examining the proportions living at different ages, it is evident that changes of an important character have been going on in the Fund. Amongst widows there has been a slight increase in the numbers living at 1858 when compared with 1853, at the ages 55 to 75; but the principal increase has been at the younger ages 35 to 45, the proportion to 100 living members being 2·60 in 1853, but 5·01 in 1858. Amongst sons who were pensioners also the increase has been at the younger ages 5 to 10, from 1·30 to 3·09 per cent. Amongst daughters, whilst there was only a slight increase at various ages, and mostly at ages above 25, since 1353, yet since 1858 the total proportions remain nearly the same.

55. On the whole, the liabilities for pensions have clearly increased in value considerably during the last 10 years, not only by there being a greater proportionate number of pensioners, but by there being a greater number living at the younger ages.

Amongst married members on active service, the diminution in the proportion living at ages 35 to 65 is considerable, and it is at those ages that the proportion of married members living retired has so largely increased; at 45 to 55, from 4·28 in 1853 to 8·40 in 1863, and at ages 55 to 65, from 1·11 to 6·48 per cent. of total living members. The increase in the proportion of living children of retired married members is still greater, arising, no doubt, from the facts that as the average age of the retired married members must be younger, there will be a greater number of sons who have not attained 21, and a greater number of daughters who have not yet arrived at a marriageable age.

56. Lastly, it will be noticed that whilst in the total number of members, the proportion living below the age of 25 remains much the same, when compared with the total in each of the three valuations, the living at ages 35 to 45 have diminished from 28·81 in 1853 to 21·95 per cent. in 1863, and the proportion above 45 has increased from 18·23 to 26·80 per cent. of the living. We should therefore reasonably infer that the value of the life annuity being less at those advanced ages, the estimated value of subscriptions would also be relatively diminished, unless such a tendency is counteracted by the percentage on increased salaries, and emoluments of the comparatively few who remain on active service at those advanced periods of life.

New Tables formed for the present Valuation.

57. I now proceed to explain the new Tables which have been formed for the present valuation.

58. The extended observations of mortality in the Bengal Civil Service comprised in Tables 1 to 3 afforded sufficient grounds for forming a new Table of mortality for the valuation of the Fund. But in order to ensure a better graduated Table, I have combined the observations into decennial periods of age as given in Abstract C, para. 26.

59. If the rate of mortality in 100 living in the middle of the year be denoted by μ, the probability of dying in a year (m) may be deduced therefrom by the formula $\mu = \frac{2\,m}{2 + m}$

60. By this means the logarithm of the probability of dying in a year was obtained for each of the mean ages 20, 30, 40, &c., as under :—

Bengal Civil Service.

Age.	Probability of dying in a year.	Logarithm of do.
20	·0173	$\bar{2}$·23679
30	·0176	·24657
40	·0212	·32579
50	·0206	·31356
60	·0329	·51656
70	·0607	·78318
80	·1895	$\bar{1}$·27754

The logarithms for the intermediate ages were interpolated by even differences of the logarithms, and the probability of dying in a year thus obtained for every age, as shown in column 2 of Table No. 17 (A).

61. The complement of the latter to unity shows the probability of living a year; the logarithms of which being successively added together as in column (5), give the logarithm of the number surviving at each age out of 10,000 entering at age 15.

62. The resulting Table, though differing from that of Mr. Davies, showing a lower rate of mortality in the middle periods of life, corresponds very nearly with the actual facts observed; and though it follows, to a certain extent, the fluctuations of mortality caused by an Indian climate, yet presents no abrupt break in passing from one decennial age to another.

63. The substitution of this Table for the one previously in use, required the re-construction of all the tables of money values in which the life of the member was concerned, either singly or in joint continuance with that of a wife, son, or daughter, or the survivorship of the latter. These Tables, for reasons to be stated hereafter, have been all computed at 5 per cent. interest.

64. Accordingly Table No. 18 (A) shows the D and N columns, and the value of an annuity at 5 per cent. deduced from Table No. 17 (A). Mr. Davies has explained in his Report the construction of the D and N columns both for single and joint lives, and I need not repeat it here.

65. The results of this Table may be compared with that of Mr. Davies' Table XX deduced from his Table I, showing the values of annuities on members' lives at 5 per cent., and used for estimating the commuted values of the subscriptions payable during the lives of retired annuitants.

Abstract L.

Value of Annuity.

Ages.	New Table No. 17 (A).	G. Davies' Table XX.
20	14·113	14·108
30	13·275	13·076
40	12·349	11·838
50	10·881	10·269
60	8·508	8·392
70	5·546	6·023
80	2·305	3·515

66. Table No. 19 is a new Table, showing the values of reversionary pensions of £300 to wives whose husbands are living, the annuity being payable to the widow quarterly in advance till death, but reducible to one-half on her re-marriage. It has been computed from the new Table No. 17 (A) for the husband's life, and by Mr. Davies' Table III for the rates of mortality amongst wives, and his Table IV, for the mortality and marriage amongst the widows of members. The husband is still assumed to be on an average 7 years older than the wife, and the value of the pension at each age is computed by the 3rd column in Mr. Davies' Table XI, but corrected for quarterly instead of half-yearly payments, by deducting ·125 from each of the values there given.

67. Previous to obtaining, by a similar process, the values of contingent reversionary benefits to sons and daughters of living members, it was necessary to re-compute at 5 per cent. Mr. Davies' Table XIII, in which these values are given at 8 per cent.

68. In Table No. 20 will be found, at 5 per cent., the value of an annuity on the life of a son at any age from birth to 21, to continue till the latter age, and also the deferred annuity to the same age, commencing respectively at 5, 8, and 11 years of age. The remaining columns of the Tables 5 to 9 show the values of the increased pension at those ages, and in the last column 10 is the value of the whole future pension at the mean age $x + \frac{1}{2}$.

69. Table No. 21 has been formed in the same way at 5 per cent. for the values of daughters' benefits, but the annuity payable quarterly in advance to continue until death or marriage. This is based upon a correction of Mr. Davies' Table X in which the rate of interest is assumed at 5 per cent., but which reckons the annuities to be payable half-yearly in advance. I have also separated the value of the marriage portion of £300, which has been re-computed at 5 per cent. interest, and given in Table No. 22, the rate of marriage being taken from Mr. Davies' Table IV; and the final column 10 shows the value, at the mean age $x + \frac{1}{2}$, of £300, payable at marriage.

70. The values in the last column of the three preceding Tables have been used in estimating the liabilities for the pensions to the sons and daughters of living members contingent upon their dying before their children. In Mr Davies' Tables XIV for sons and XV for daughters, the values of these contingent pensions are given at 8 per cent., and payable half-yearly in advance; but in the present Tables Nos. 23 and 24, they are re-computed at 5 per cent., and payable quarterly in advance. Mr. Davies has sufficiently explained the process of the construction. The father's age has been assumed as, on an average, 35 years older than the children, which we have seen from recent data is sufficiently near for all practical purposes.

The value of the contingent benefits of daughters, as shown in the last column, includes also the marriage portion of £300.

71. The next three tables which I have to explain are altogether of a new character. In the former valuations, the contributions of the unmarried members were brought into account as payable for the whole duration of their lives, but the liabilities which they might throw upon the Funds for pensions to their widows and surviving children, should they marry, were not estimated. I entirely agree with the observations of Mr. Monteath in page 16 of the history of the Fund. If the Fund were closed to new entrants, and the bachelors continued to subscribe to the date of their marriage, there could be no reasonable ground for refusing them the privileges of other married members, on payment of the increased subscriptions during married life for their wives and children. It will be seen that in estimating the value of future subscriptions, I have virtually included the contingent increase should members who are now bachelors hereafter marry.

It is incumbent, therefore, on us in the valuation to make a reserve for the probability that such claims would be incurred.

The experience of the Fund for 13 years, as shown in Table No. 8, is sufficiently confirmed by other data to make it available for this question, which, from the large number of members interested in it, is one of great importance to the Fund.

72. In Table No. 25 (B) I have deduced from the experience of the Fund the probability of a bachelor marrying at any age from 20 to 60, at which age the numbers left unmarried are too few to make it worth while to continue the Table.

The Table has been graduated like the Table of Mortality by taking the actual probability of marrying in a year at the mean ages observed, and filling up the interval with the number corresponding to their logarithms, interpolated by even differences of logarithms. The mortality at each age is taken from the Table No. 17 (A). But as the quinquennial periods 40 to 45 and 45 to 50, and 50 to 55 and 55 to 60, showed alternately a lower and higher percentage of marriage, I have, for better graduation, grouped these ages into the decennial periods 40 to 50 and 50 to 60, and marked in the Table the percentage at the mean ages 45 and 55. The actual percentages used in Table No. 25 (B) were therefore as follows :—

Mean age.	Bachelor's probability of marriage in a year, per cent.
22	7·84
27	8·38
32	12·80
37	7·24
45	3·34
55	2·60

At all the intermediate ages the logarithm of the probability of marrying in a year was interpolated as above explained. From these data the Table is deduced, showing out of 10,000 bachelors at age 20, the number who would marry or die in each year of age, and, consequently, the number who would survive as unmarried to each successive year of age.

73. From this Table has been computed No. 26 (B), showing the values of contingent pensions to the widows of members now unmarried, who may hereafter marry at any age under 60 and die before their wives. It is obtained by multiplying the number who marry at any age of the husband by the last column of Table No. 19, on the

supposition that the husband on the average will be 7 years older than the wife. The sum of the values so obtained for x and every subsequent age below 60 being divided by the number living unmarried at age x (from Table No. 25 (B)), will give the value of the total liabilities on account of the subsequently taken wives of bachelors at any age x. It is only necessary further to explain that this Table has been formed in the usual manner of the D and N columns, so as to afford facilities, should it be required to obtain these values for any intermediate periods of years.

74. But we have also to ascertain the values of contingent liabilities for the families, should male or female issue be born of these marriages. In this case it is necessary to make certain assumptions, which, though they may not agree with any particular case, will be found on the average to give sufficiently correct results. We assume from what appears to be the experience of the Fund, that 4·5 children will be born to every marriage, of whom 2·25 will be males and 2·25 females, and that one with another they may be considered as born five years after the marriage. We then discount the value of children's contingent annuities at birth for five years, and in this computation, the father's age being taken at 35 on the birth of the children, would bring the age of marriage on an average below 30, which is very near the truth.

75. Let V be the value of children's contingent pensions in the year of birth, and m the number of bachelors marrying at age x, then the value required may be expressed by the following formula $\frac{v.^{x+n} m_{x+n} \text{V}. v^5}{v.^x l_x.}$ (in which n may be any number of years from o, and m_x and l_x are taken from Table No. 25 (B)).

But V. v^5 is a fixed quantity at the birth of children for all ages of the father, which is assumed on an average to be 35, and is obtained thus:—

		£
Table No. 23.—Age 0, Male	= 146·97 × 2·25 =	330·68
Table No. 24.—Age 0, Female	= 267·90 × 2·25 =	602·78
	·7835 × 933·46 =	£731.36

Value of children's contingent pensions on marriage.

The logarithm of this = 2·86413 enters into the logarithm of the value obtained at each age in column 1 of Table No. 27 (B). The sum of the values for all bachelors who marry at age x,—and each subsequent age is given in column 3,—and this divided by $v.^x l_x = \text{D}_x$ of Table No. 27 (B), gives the final value for the liabilities for the families of bachelors who may hereafter marry, as shown in the last column 6.

These are all the computed Tables required for the valuation of the liabilities of the Fund. They comprise the most important charges, whether actual or contingent, for the widows and daughters of members. One or two minor items only have been approximated in value, as I shall explain under the proper heads.

76. But in estimating, on the other side, the assets to meet these liabilities—by far the most important after the realised capital is the value of the future contributions of the members,—I have adopted a method entirely different from that which has been used in previous investigations, and which I venture to think comes nearer to the actual truth.

77. Mr. Davies, in his first Report, June 1851, admits that, "considered individually, the subscriptions of each member would gradually increase with his increasing emoluments. But taking into account the fraternal character of the Fund, he thought it more proper to value the contributions that were required to make up the deficiency of the present capital as a constant annuity for the whole duration of the lives of all the members, and those which are charged for the purpose of providing reversionary pensions to the wives and widows and children of present members, as payable during the joint lives of the married members and their present wives, thereby leaving the contributions which may be made by the married members after the deaths of their present wives towards providing for subsequent families."

78. This method leaves out of sight the probabilities of the single members becoming married. These involve fresh liabilities for wives and children, and the members pay towards them two per cent. additional on salaries for the wife, and the further contributions of one-eighth and one-fourth per cent. during the joint lives of the father and the children. Nor does it estimate the increasing subscriptions as the salaries increase, and which will evidently be much more in proportion for married than for single members.

79. Mr. Neison, on the other hand, valued the subscriptions of the unmarried members as strictly a contribution in aid of the Fund, not carrying with them any liability, and extending over a whole generation, taking the value at age 20, so as not to throw the entire onus of making up the deficiency on existing members.

80. The subscriptions of the married members were valued by taking the average of the joint life annuities of themselves and their wives at their then ages; whilst for the children of members, the annuity was the average of the annuities on the lives of existing members, whether bachelor, married, or widowers.

81. None of these methods appear to be sufficiently accurate for estimating so important an item. On reading the regulations, it occurred to me that some plan might be adopted for averaging the different classes of subscriptions, increasing with the emoluments in the service, and depending on the ages of the members, so as to arrive at a fair estimate for all members living at the same age. I entirely concur in the views expressed by Mr. Monteath in his history of the Fund on this subject.

82. Having been favored with a list of the members existing 30th April 1863, with their ages and official incomes at that date, I classified them under ages, and obtained the amount of subscriptions payable in each class—bachelors, married members, and widowers, whether active or retired, at each age, and the average for each member according to age, as shown in Table No. 28. The totals may be briefly stated as follows:—

Abstract M.

Total Subscriptions payable by Members living 30th April 1863.

			Ordinary subscriptions, 2½ per cent.	Additional subscriptions for wives, 2 per cent	Additional subscriptions for Children, ⅓ and ¼; and Widowers, ¼ and ½ per cent	TOTAL.
			Rs. Dec.	Rs. Dec.	Rs. Dec.	Rs. Dec.
Bachelors, Active ...		228	47397·0	...	...	47397·0
Retired* ...	10	16	2329·4	...	...	2329·4
Compounded...	6					
Both ...		244	49726·4	...	...	49726·4
Married, Active ...		228	151316·5	120570·5	36133 1	308020·1
Retired ...	77	116	17265·6	13812·8	4968·1	36046·5
Compounded. .	39					
Both ...		404	168582·1	134383·3	41101·2	344066·6
Widowers, Active ...		18	10989 8	...	5017·2	16007·0
Retired ...	9	12	2330·2	...	981·4	3311·6
Compounded...	3					
Both ...		30	13320·0	...	5998·6	19318·6
Totals, Active ...		534	209703·3	120570·5	41150·3	371424·1
Retired ...	96	144	21925·2	13812·8	5949·5	41687·5
Compounded ...	48					
Both ...		678	231628·5	134283·3	47099 8	413111·6

and the summary of the average subscriptions deduced therefrom is as follows :—

Abstract N.

Annual average of Subscriptions in Rupees.

MEMBERS.	Active.	Retired.	Both.
Bachelors ...	208	233	209
Married ...	525	224	462
Ditto for Wives ...	420	179	368
Ditto for Children	125	65	113
Total ...	1,070	468	943
W dowers ...	611	259	493
Ditto for Children	279	109	222
Total ...	890	368	715
Total of all Classes...	696	434	656

83. It thus appears that a very considerable increase occurs in the ordinary subscriptions of members passing from the class of bachelors to married members and widowers, which renders it more important that we should analyse the progression according to ages. But as the results at each age, as seen in Table No. 28, are somewhat irregular, and only depend upon the salaries at a given date, 30th April 1863, it is better to average them by groups of ten years, which will then, I think, afford a fair presumption that they will accord sufficiently nearly to the income of the Society at each age on an average of years. This will allow for the probability that the average at particular ages may have been somewhat disturbed, either by the effects of the Mutiny, or by various causes affecting the rate of retirement in recent years.

84. Accordingly, in the following summary, I have brought together in each decennial group of ages from 15 to 75 the number of members and the annual subscriptions payable by each class, whether on the active or retired lists, and which may be considered to correspond with the mean ages 20, 30, 40, 50, 60, and 70. It will be noticed that in each class in active service the subscriptions increase with great regularity according to age; but on the retired lists, as might be expected, they differ but little except for children's subscriptions.

Abstract O.

Bengal Civil Fund.

*Summary showing the Annual Average Subscriptions paid by each Member living within Decennial periods of age on 30th April 1863 (*compounded).*

Ages.	Bachelors. Active. No.	Bachelors. Active. Average.	Bachelors. Retired. * No.	Bachelors. Retired.	Bachelors. Retired. Average.	Married Members. Active. No.	Married Members. Active. Average.	Married Members. Active. Wives, Average	Married Members. Active. Children, Average.	Married Members. Retired. * No.	Married Members. Retired.	Married Members. Retired. Average	Married Members. Retired. Wives, Average.	Married Members. Retired. Children, Average.	Widowers. Active. No.	Widowers. Active. Average.	Widowers. Active. Children, Average.	Widowers. Retired. * No.	Widowers. Retired.	Widowers. Retired. Average.	Widowers. Retired. Children, Average.	Number. Active.	Number. Retired.	Number. Total.
		Rs			Rs		Rs.	Rs.	Rs.			Rs.	Rs.	Rs		Rs.	Rs.			Rs.	Rs.			
15	100	100	...	...	...	16	100	80	4·5	...	...	...	...	...	...	...	...	...	...	...	...	116	...	116
25	103	231·6	..	...	...	120	318·9	254·1	38·3	...	02	40·	32	3·	6	316·2	11·8	.	...	...	...	229	2	231
35	25	470·9	...	...	...	111	636·6	506·9	170·9	...	05	50·2	40	11·8	8	567·2	367·9	...	...	...	...	144	5	149
45	...	...	6	7	218·6	38	942·6	753·8	307·5	14	44	235·9	188·7	72·2	4	1139·1	500·7	..	4	252·	66·	42	75	117
55	...	...	...	3	266·8	3	1451·6	1161·2	273·2	21	24	251·	200·8	70·8	...	...	...	2	4	264·	85·8	3	54	57
65-75	...	...	...	...	...	...	...	...	...	4	02	266·4	213·6	13·2	...	...	...	1	1	266·4	373·2	...	8	8
Total	228	207·9	6	10	232·9	288	525·4	418·7	125·5	39	77	221·2	179·4	64·5	18	610·5	278·7	3	9	258·9	109·2	534	144	678
			16							116								12						

85. The next important step in the process we are now pursuing, is to ascertain the proportions per cent. of each class of members living in the above periods of age, so that we may be able to distribute in the Table of Mortality the survivors at the mean ages before quoted in the same relative proportions. Assuming, therefore, 100 to be living in each decennial period, the proportions of each class deduced from the above summary, will be as follows:—

Abstract P.

MEMBERS.

Proportions per cent. living in each Decennial period of age.

Ages.	Bachelors.			Married.			Widowers.			Total	Active.	Retired.
	Active.	Retired	Both.	Active.	Retired.	Both.	Active.	Retired.	Both.			
20	86·2	.....	86·2	13·8	.....	13·8	.....	.....	.....	100	100	.....
25	44·6	.....	44·6	51·9	9	52·8	2·6	.....	2·6	100	99·1	·9
35	16·8	.....	16·8	74·5	3·3	77·8	5·4	.....	5·4	100	96·7	3 3
45	.....	11·1	11·1	32·5	49·6	82·1	3·4	3·4	6·8	100	35 9	64·1
55	.....	5·3	5·3	5·3	78 9	84·2	.....	10·5	10·5	100	5·3	94·7
65-75	.....	.....	.....	.....	75·	75·	.....	25·	25·	100	.....	100
Total ...	33·6	2·4	36·	42·5	17·1	59·6	2·6	1·8	4·4	100	78·7	21·3

86. The proportions obtained by this Table have been applied in Table No. 29 to show the number of each class that would be living in a community represented by Table No. 17 (**A**) out of 10,000 entering at 20, and surviving at the mean decennial ages 30, 40, 50, 60, and 70. The total subscriptions which each class would pay have been then obtained by multiplying their average subscriptions found in Abstract **O**; and the total being brought together, and divided by the whole number living, gives at last at each of those ages the actual average subscription paid by each member living on the active or retired lists, whether bachelor, married, or widower in either of these lists.

87. The process seems somewhat elaborate, but being based on actual facts in the records of the Fund, and merely averaged to get rid of the irregularities at particular ages, the results will, I think, approximate more nearly to the truth than any other method would give. The Table No. 30 deduced therefrom, showing the value at each age of future subscriptions, increasing with age during continuance in active service, or diminishing with retirement and loss of wife or children at the more advanced periods of life, has been computed by taking the resulting averages in Table No. 29 for the following ages:—

Age.	Average subscriptions. Rupees.	Logarithm of do.
22	112	2·04922
30	430	2·63347
40	1,112	3·04610
50	988	2·99476
60	616	2·78958
70	440	2·64345
75 and upwards	266	2·42488

88. The logarithms for the intermediate ages have been interpolated by even differences, and the rest of the Table formed nearly in the same manner as I have before explained, in the case of the formation of the values of the widows and children's contingent pensions, except that as the receipt of these subscriptions depends upon the member surviving each successive year of age, the summation of column κ_x begins from age $x + 1$, inclusive. The heading of each column is sufficiently conclusive of the process employed in its formation, to those who have studied the construction of such of the previous Tables as are nearly similar in form.

89. I will merely add that it seems to me to include all the changes that would occur in the Fund to affect the subscriptions payable, so long as they continue at the present rate of percentage on salaries, and that in consequence of the method of averaging periods of ten years of age together, it may be safely used on future occasions, unless the constitution of the Fund or the mode of adjusting the subscriptions should be materially altered.

90. Before closing this description of the Tables which have been framed from the original data, I may add two more Tables, Nos. 31 (M) and 32 (M), which, though only partially used in the valuation in approximating to the estimate of liabilities for the second wives and families of present married members, may be turned to other purposes for the middle periods of life in questions connected with the duration of married life.

91. The former Table is deduced from the columns in Table No. 8 and in Abstract **C**, which show the proportion per cent. who "died or became widowers" during the 13 years under the observations relating only to married members. The mortality, it will be observed, is less at all ages than that of the service generally. The rate of becoming widowers, or, in other words, of the wife dying before the husband, is highest at the younger ages, and gradually diminishes till age 55, when it increases again. If the facts were sufficiently numerous to give average results, it would form an excellent substitute for the Joint Life Table, with an average difference of 7 years, because the mortality observed depends on the actual age of the wife, and not the average difference in age. The chance of becoming a widower consequently diminishes proportionably at the advanced ages, when (as we have seen) the discrepancy of age between husband and wife is greater.

92. The probability of dying or becoming a widower in a year, actually used in the Table deduced from the rates per cent. at the mean ages as in Table No. 17, explained in para. 24, is as follows:

Bengal Civil Fund.

Mean Age	Probability of dying or becoming a Widower in a year	Logarithm of do.
25	0206	$\bar{2}$ 31356
30	0297	·47208
40	·0283	45169
50	·0298	47491
60	·0368	·56597
70	0434	·63785
80	1818	$\bar{1}$ 25964

These logarithms being interpolated by even differences for the intermediate ages, form the first column in the Table No. 31. The remaining 6 columns being formed in precisely the same way as those in Table No. 17, require no further explanation. The result is to show, out of 10,000 married members at age 20, the number who die or become widowers at each age, and the number who survive as married men to the following age.

93. From this Table the D and N columns, and the annuity at 5 per cent., have been computed in the usual way and shown in Table No. 32. It gives a much higher value to the annuity than Mr. Davies' Joint Life Table XVII, and from 50 to 70 is even higher than the Carlisle Table, but approximates much nearer to the latter when the actual average of difference in age and not the assumed constant difference of 7 years is taken, as will appear by the following comparison :—

Abstract Q.

Value of Annuity at 5 per cent.

Ages, difference 7 years.		Table No. 32.	Davies' Joint Life Table XVII.	Carlisle Joint Life Table.	Actual average, ages.		Table No. 32	Carlisle Joint Life Table.
H.	W.				H.	W.		
20	13	13·009	12·376	14·061	22	21	12·712	1·556
30	23	11·904	11·068	12·855	32	28	11·855	12·431
40	33	11·470	9·636	11·469	42	34	11·470	11·236
50	43	10·474	8·099	9·860	52	40	10·194	9·643
60	53	8·855	6·473	7·323	62	45	8·439	7·528
70	63	6·098	4·565	4·889				
80	73	2·371	2·547	2·770				

It will be noticed that the improvement commences about the mean age of retirement, but it is too great to be altogether trustworthy after the age of 50. I am inclined to think that, with a few more years of observation, a Table of Annuity in this form will show the value of an annuity during marriage life much more correctly than on the assumption of an average constant difference of age, and will, at the same time, save the computation of the numerous Tables that would be required if all the combinations of the ages of joint lives had to be calculated.

Results and Comparisons of the present Valuation to 30th April 1863.

94. Before commencing the valuation, the first and most serious question which presents itself is the rate of interest at which the calculations are to be made.

Amongst the special subjects referred to the Actuary in the Secretary's letter, dated 7th July 1863, is the question of the acceptance of a fixed annual donation suggested by the Secretary of State for India in lieu of the additional interest from 4 to 8 per cent. in the ordinary branch of the Funds, and which had been discussed by the Committee in their Report of 21st May 1863. I gathered from this Report that the Committee were in favor of recommending the adoption of this measure (subject to the opinion of an Actuary as to its bearing on the affairs of the Fund generally), provided the Government concurred in certain points which were assumed in the discussions as making the offer less unfavorable to the Fund than it first appeared to be.

95. The Fund Secretary had accordingly applied to the Secretary of State for India for his decision on the following points, with a request that the purport of his orders might be communicated to the Actuary through Messrs. Coutts and Co.

(a) Whether the Committee (in pages 3 to 6 of whose Report the subject is discussed) are right in assuming (para. 3) that the expression "Balance of the Funds" in the Despatch of 25th November 1862, is to be regarded not only as applied to the hitherto privileged capital of the Civil Fund held in book debt with Government, but also to the balance of the additional branch of the Fund.

(b) Whether the same Committee are right in assuming (para. 4,) that the rate of exchange only, and not the system of adjustment, will be affected by the Secretary of State's proposal.

(c) Whether, in the event of the transfer of funds from the additional to the ordinary branch being allowed, the additional interest on the amount so transferred would be permitted to be added to the five years' average on which the fixed donation is proposed to be calculated.

96. I was accordingly favored, on the 18th December 1863, through Messrs. Coutts and Co., with a copy of the Financial Despatch to the Government of India, dated the 16th December 1863, No. 225. In paragraph 2 it states—"In regard to the first point on which information is desired, you will acquaint the Managers that interest at the rate of 5 per cent. may be allowed on the whole balance of the Fund, whether subscribed for 'ordinary' or the 'additional' advantages already sanctioned."

97. And in regard to the question whether, in the event of the transfer of funds from the "additional" to the ordinary branch (which had been the subject of previous correspondence) being sanctioned, the 4 per cent. donation which would be claimable retrospectively on the amount so transferred would be allowed to be taken into account in determining the fixed donation, the reply was "that Her Majesty's Government would

not object to accede to this request; but until the amount to be transferred under the authority conveyed in the Despatch dated 27th December 1862, No. 217, had been reported and approved, no decision was to be passed by the Government of India in regard thereto."

98. From this it would appear that the requests of the Managers of the Fund had been substantially granted, and that the fixed rate of 5 per cent. on the total capital of the Fund, and its future accumulations on which the Committee based their conclusions, might be assumed for the whole of the valuation of actual and contingent liabilities as well as the future subscriptions of the members.

99. Whether it will be advisable to accept this offer, will be discussed under the special heads referred to the Actuary for his report. The suggestion, so serious in its results, required, at any rate, that a valuation be made at 5 per cent. throughout, and the Tables computed, in order to see what would be the position of the Fund if the change were to be effected.

100. Another point of considerable importance to the interests of the funds is the rate of exchange to be allowed in the remittance of the sums required by the Fund in England. These payments must always be heavy, and will increase for many years, and would, in fact, if the Fund were closed to new entrants, include eventually nearly the whole existing capital, in addition to what would accumulate hereafter from the subscriptions. The offer of the Secretary of State was to allow remittances at the same rate of exchange as that fixed annually for the adjustment of transactions with the "British Exchequer." The rate of exchange so fixed has been for the last few years 10 Rupees to the Pound, whilst the existing rate of exchange to the Civil Fund is 10·24 Rupees to the Pound. The Committee consequently include in their argument the advantage to be obtained by the acceptance of this offer, supposing that the rate fixed by the Government of late years is likely to continue the same. I have therefore felt justified in making the whole valuation on this assumption.

101. With these preliminary remarks I proceed to examine, *seriatim*, the items to 30th April 1863, which are given in the Tables marked with the small letters *a*, *b*, *c*, of the valuation, commencing with the liabilities.

102. *a.*—*Value of Widows' Pensions*, Old Rules.—Of these there remained 56, which were assigned before 1850, the annuities payable being £14,417, and the value by Davies' Table XI, £150,328·6.

If they were all paid in full, the annuities would amount to £16,800. The deductions on account of private property are consequently £2,383 per annum, or 14·2 per cent. The average value of each pension was 10·427, nearly corresponding to age 59.

103. Of those assigned since 1850, eight were in existence for £1,996 annuities, and total value £20551·9.

The annuities in full would be £2,400. The reduction on account of private property would consequently be £404, or nearly 17 per cent. The value of each pension nearly 10·3, corresponding as before to about age 59.

These annuities were valued by Mr. Davies' Table XI, column 3., value at age $x + \frac{1}{2}$ of an annuity payable half-yearly in advance, reducible to one-half on re-marriage.

104. *Value of Daughters' Pensions, Old Rules.*—Of these, 31 had mothers living, and 17 were without parents, total 48, £3,548 annuities, value £40379·1. As the whole of this number were above the age of 11 years, the full pensions would have been £100 a year each, or £4,800. The deduction on account of private property was consequently £1,252, or 26 per cent. The value of each pension was 11·38, corresponding nearly to the mean age of 26½.

105. Of those assigned since 1850, there were two for £200 annuities, value £2406·9, showing an annual average of 12·035.

These annuities were valued by Mr. Davies' Table XI, column 2, value at age $x + \frac{1}{2}$ of an annuity payable half-yearly in advance till marriage or death without marriage portion.

106. *Value of Sons' Pensions, Old Rules.*—These were five in number for £305 annuities, value £1093·6, two of them having mothers living, three orphans, and all assigned before 1850. As they were all above 11, the full pension of £100 would have given a total of £500; the deduction on account of private property was £195, or 39 per cent. There was no Table complete in Mr. Davies' Report for these annuities at 5 per cent., but as they were so few in number, each one was calculated from Mr. Davies' Table IX, by formula $a_x \frac{D_{21}}{D_x} a_{21}$, a_x being the annuity payable half-yearly in advance till 21, and then taking the mean value for two following ages for age $x + \frac{1}{2}$.

107. *Value of Widows' Pensions, New Rules.*—The total number was 55 for £15,450 annuities, the difference, £1,050 annuities, being explained by the fact that seven were for half pensions only. The total value of £198552·2, and the average value of each 12·85, corresponds nearly with age 45.

These annuities were valued by Davies' Table XI, column 3, 5 per cent., reducible to one-half on marriage, but corrected for the annuity quarterly in advance by deducting ·125 from the value at each age.

108. *Value of Daughters' Pensions, New Rules.*—Of these there were 59 with mothers living, and 14 without, total 73 for £6,280 annuities, the value of which is £74,646·9, giving an average annuity of £86, and the average value of each 11·89.

These values are computed by Table No. 21, deduced from Davies' Table XI, column (2) corrected for quarterly in advance.

109. The value of daughters' marriage portions of £300 was computed by Table No. 22, newly deduced, as before explained, from Davies' Table of Marriage IV, the total

liability for the 73 daughters being £21,900, and the total value £8,324·8, which would give an average value of £38 per cent., corresponding nearly to age 11.

110. *Value of Sons' Pensions till* 21, *New Rules.*—These annuities, of which 61 were of sons with mothers living and 5 of orphans, total 66, for £5,080 annuities, are valued at £42,360·5, showing an average annuity of £77, and an average value for each of £8·339.

These values are obtained from the new Table No. 20 before explained.

111. These constitute the whole of the incumbent liabilities, and as they form so large a proportion of the existing assets, it may be well to compare each of the totals of values with the amount to be reserved for them under the former method of valuation in the accounts presented to the half-yearly General Meeting, 30th January 1864.

Value of Incumbent Pensions, 30*th April* 1863.

			New valuation, 5 per Cent.	Old valuation, 8 per Cent.
		£	£	£
Old Rules, Widows ..	56	14417	150328·6	122106·5
Daughters ...	48	3548	40379·1	30825·0
Sons ...	5	305	1093·6	1040·3
	109	18270	191801·3	153971·8
Do., assigned since 1850				
Widows ...	8	1996	20551·9	16568·6
Daughters ...	2	200	2406·9	1811·7
Sons ...	.....	.....	.....	.....
	10	2196	22958·8	18380·3
New Rules, Widows ...	55	15450	198552·2	77222·7, 68480·8 } 145703·3
Daughters	73 marriage portions.	6280 (£21900)	74646·9, 8324·8 } 82971·7	34222·6, 30348·3 } 64570·9
Sons ...	66	5080	42960·5	19823·9, 17579·7 } 37403·6
	194	26810 (and £21900)	323884·4	247677·8
Total, Widows ..	119	31863	369432·7	284378·4
Daughters ...	123	10028 (and £21900)	125757·7	97207·6
Sons ...	71	5385	43454·1	38443·9
	313	47276 (£21900) marriage portions.	538644·5	420029·9

It would appear by this comparison that whilst the former method of valuation would require for these liabilities a reserve of £420,029·9, the new valuation at 5 per cent. would require £538,644·5, being a difference of £118,614·6.

112. If, however, we compare the results of the new valuation at £5 per centum with the balance of appropriated funds as given in the last accounts, we shall find three causes of difference.

113. 1*st*.—The rate of exchange, which affects all the items, was taken as 10·24 Rupees to the Pound. We have therefore under the "ordinary" branch—

At 8 per cent. Ordinary.	Old rules, values of pensions -	£153,971·8	
	Ditto assigned since 1850 -	18,380·3	
	New rules, 53 per cent. of total values of pensions - -	„ 131,269·2	
			Rs.
		£303,621·3 × 10·24 =	31,09,083
		At 10 Rupees to the Pound	30,36,213
		Excess -	72,870
	New rules, 47 per cent. of total values -	£116,408·6 × 10·24 =	11,92,024
	And dividing each by ·798 -	£145,875·4 × 10·24 =	14,93,764
		At 10 Rupees to the Pound	14,58,754
			35,010
		Total excess ...	1,07,880

114. 2*nd*.—The proportion in which the funds have to be increased in order to convert the 47 per cent. of the values of the "additional" new rule pensions into stock bearing 4 per cent. Mr. Monteath (History of the Fund, p. 22) states that, taking the new rule pensions as they stood on 30th April 1862 as a basis, he found that the reduction for 5 per cent. capital held over to meet incumbent pensions calculated on the 8 per cent. Tables is ·798, but this is applied to a valuation by 4 per cent. Tables. In the Committee's Report, marked J, it is shown (para. 3) that at the price paid for the existing stock in the "additional" branch as it stood in February 1863, the average rate of interest yielded is 4·9 per cent. If, therefore, 5 per cent. may be reckoned, the question is whether it would not be better to take 47 per cent. of the values of the new rule pensions computed at 5 per cent., which from the new valuation would appear to be £323,884·4 × ·47 = £152,252·7 instead of £145,875, as shown above. The method of obtaining the divisor for the proportionate value at another rate of interest is evidently very rough, as it differs in each class of facts, and at every valuation. For instance, on the present occasion,

Value of new rule pensions chargeable to "additional" fund—

$$\frac{\text{By 8 per cent. Tables ... £116,408·6}}{\text{By 5 per cent. Tables ... £152,225·7}} = \cdot 7647 \text{ instead of } \cdot 798.$$

115. *3rd.*—The proportions of the new rule pensions, which should be respectively placed to the "ordinary" or the "additional" branches, were estimated by Mr. Davies at 53 and 47 per cent., but only by the facts in 1850, and might differ at any other valuation. In 1850 he found, for instance, the full pensions for 79 widows, 91 daughters, and 61 sons, total 231, under the old rules to be £40,430, and the amount actually payable by reductions on account of other provisions for families, £30,191, or 75 per cent. He also found from the Committee's Report in 1850 that in the previous ten years also 39 had come on the Fund, and 16 had been left wholly independent of it, total 55. Consequently $\cdot 75 \times \frac{39}{55} = 53$ per cent. was the total amount of full pensions payable to 55 families.

But in the present valuation I find the full pensions under the old Rules, and the amount to which they are reduced by other provisions, to be as follows :—

		Full pensions.	*Pensions payable.*
Widows ...	... 64	£19,200	£16,413
Daughters...	... 50	„ 5,000	„ 3,748
Sons ...	... 5	„ 500	„ 305
Total	... 119	£24,700	£20,466

Consequently $\frac{20466}{24700} = \cdot 8286$, and assuming as before $\frac{16}{55} = \cdot 727$ to be wholly independent, (which I have no further means of checking ;) then $\cdot 8286 \times \cdot 727$ would give nearly 59 per cent. as the proportion for the ordinary branch, and ·41 per cent. for the additional. But perhaps the more correct plan would be to average the two Statements $\frac{30191}{40430} + \frac{20466}{24700} = \frac{50687}{65130} \times \frac{39}{55} = 55$ per cent. for the ordinary branch, and 45 per cent. for the additional branch.

116. Should it appear advisable to adopt the offer of the Government annual donation in lieu of an extra rate of interest, all these constantly changing elements of value will be eliminated. The rate of exchange will probably become permanent at 10 Rupees to the Pound; the whole valuation will regularly be made at 5 per cent. interest, and there will be no necessity for dividing the new rule pensions into two classes, which is now only caused by the two Funds bearing different rates of interest.

117. Taking, however, the accounts of the appropriated funds for incumbent liabilities as they have been adjusted by the Managers to 30th April 1863—

We find bearing interest at 8 per cent. ...	Rs.	31,09,083
Ditto ditto at 4 „ ...	„	14,93,764
	Rs.	46,02,847
And the 5 per cent. valuation at 10 Rupees to the Pound	Rs.	53,86,445
Excess to be provided out of the value of the Government donation in lieu of interest	„	7,83,598 = £78,359·8

118. *b.*—Value of contingent reversionary pensions to wives of present members.

Active Service.—These pensions were valued by Table No. 19, column 12, at the husband's age of $x+\frac{1}{2}$, he being supposed on an average to be seven years older than his wife, and the pensions payable quarterly in advance reducible to one-half on re-marriage. The total number is 288, for whom the total amount of contingent pensions would be £86,400, and the total value thereof, £318,630·3, giving an average value for each pension of £1,106·4, corresponding nearly to the ages 34·27.

119. *Retired Service.*—In number 114, for £34,200 annuities, valued by the same Table, total £139,543·3, average £1,224·1, corresponding nearly to ages 54·47.

120. At 8 per cent., Mr. Davies' Table XVIII as used in the previous valuation, the former would be only valued at £176,895, averaging £614·2, nearly ages 35·28, and the latter £86,388·6, averaging £757·8, nearly ages 53·46.

By Mr. Davies' Table XIX, at 5 per cent., the totals would be respectively £311,183·1 and £133,281·3, the total being less than the value by the new 5 per cent. Tables by about £13,709. At 4 per cent. the values by Mr. Davies' Tables would be respectively £387,318 and £156,470·4.

121. *Value of Contingent Reversionary Pensions to Daughters.*—These values were obtained by using Table No. 24, column (12), which includes the contingency of the marriage portion of £300.

Active Service.—In number 397, total value £114,822·6, average value £289·2, nearly age 8.

By Mr. Davies' Table XV, at 8 per cent., the total value is £73,848·5 average 186, being nearer age 12.

Retired Service.—Total number 225, and total value £75,424·8, average for each pension £335·2=age nearly 21. At 8 per cent. the total value is £48,226·8, average for each pension £214·3=age about 21.

122. *Value of Contingent Reversionary Pensions to Sons.*—These values were obtained by Table No. 24, column (11).

Active Service.—In number 394, total value of pensions £41,585·8, average £105·6 =age $7\frac{1}{2}$.

Retired Service.—In number 210, total value of pensions £14,015·5, average £66·7= age 11.

By Mr. Davies' Table XIV, at 8 per cent., the total value of the former would be £34,980·1, average £88·8, about age 9, and of the latter £12,968·5, average £61·8, about age 12.

123. The comparison of the value of these contingent pensions for wives and children may be sufficiently shown in the present valuation by bringing together the total of those at 5 per cent., £704,022·3, with the totals shown in the accounts to the same date at 8 per cent., £433,307·5, equivalent to Rs. 44,37,069.

124. *c.—Value of Liabilities for future children of existing marriages.*—This item, though one that should be taken into account, is not with the present information capable of a very accurate estimate. We may, however, approximate to it by aid of the statistics of the Fund, to which I have already alluded, as collected on the present occasion. Mr. Davies, in his Report, paragraph 39, gave it as his opinion that such provision could not amount to less than one-fourth the value of the Reversionary Benefits to children of married members then living, and although he has been supposed to have been without any data for this opinion, I am inclined to think that his previous experience in Annuity Funds and his natural sagacity in drawing conclusions from averages so obtained, would give great weight to his judgment on this point.

125. I have, however, as shown in pages 17 and 18 of this Report, endeavored to collect more precise statistics, and by averaging the results, we shall probably find the resulting estimate not far from the truth.

Number of Children to each family, by Abstracts I and J, paras. 44 *and* 45.

Husband's Age.	In 1850.	In 1863.	Average of both periods.	Adjusted average.
20	·5	·5	·5	·5
25	1·5	1·2	1·4	1·5
30	3·3	1·9	2·6	2·5
35	4·2	2·8	3·5	3·5
40	4·5	4·4	4·5	4·5

As the number of children living to each family may have been somewhat disturbed by the effects of the mutiny, and by other changes in recent years, it is better to combine the average number living in 1850 and in 1863, and the result, as seen in this little Table, is so near to that of increasing by even differences of 1· for every five years of the husband's age from 20 to 25, to 40 to 45, when the number living in a family attains its maximum, that in the last column I have taken the latter rate for the adjusted average, and used it in the calculation.

126. The next step is to consider that, if both husband and wife live to each successive period of five years within the above limits of age, the family will increase as above shown, and to provide that a reserve should be made on that assumption of the value of the contingent reversionary pensions for each of such children at birth discounted to the present ages of the parents. Some slight difference might arise by the fact that in the Tables of such contingent values, the father is assumed to be on an average 35 years of age at the birth of the children, that a few may die in the interval having left in some cases an increased family, and that a few others may be born after the maximum number there given is attained. But these are points too minute for examination, and one set of events would probably balance the other, or they might be allowed for by taking the ages at the beginning of each quinquennial period.

Value of sons' benefits at birth... ...	146·97 × ·5 = 73·5
Ditto daughters' ditto	267·90 × ·5 = 133·9
Value at each birth, assuming an even chance for a boy or a girl	1 = 207·4

The formula would then be at ages, husband 35, wife 28,

by Table No. 19, $\frac{D40\cdot33}{D35\cdot28} \times 207\cdot4$

and this process being carried out for each of the younger ages, and for each period of 5 years multiplied into the number of married members living at those ages, gives the total value at which I have estimated this item, namely, £48,846.

Husband's age.	Value of Contingent Pensions to future children.	Number of Husbands.	Total Values.
	£		£
20	355·8	17	6048·6
25	305·2	59	18006·8
30	236·4	63	14893·2
35	139·4	71	9897·4
		210	48846·0

The total value of children's contingent pensions being found in the accounts as £245,848·7, the above result is rather below 20 per cent. instead of 25 per cent. as estimated by Mr. Davies, and is, in my opinion, an ample provision for these risks.

127. *(d) Value of contingent reversionary benefits to subsequent wives and families of existing married members.*—The recordsof the Fund for 13 years, 1850 to 1862, scarcely afford sufficient data respecting widowers to form distinct Tables for the estimate of this contingency, which, though relatively small, ought to be taken into account as a probable liability.

128. In Table No. 8 will be seen the proportion of married members who have become widowers, and also the proportion of widowers who have re-married in the 13 years, both active and retired. But the former depends on the mortality amongst the wives, and the results are too irregular to be safely used, and the latter only comprises 32 cases in 13 years, or 2·46 per annum. The proportion of married men who became widowers was $\frac{53}{4221.5}=1{\cdot}26$ per cent., and of widowers who re-married, $\frac{32}{360}$ or 8·89 per cent. annually, or more than three times the rate of mortality amongst them.

129. We may, however, obtain more regular results by comparing the number of married members in decennial groups of age with the number of widowers who again entered the married list. It may be interesting to compare with them similar results of the Madras Military Fund for the much longer period, 1808 to 1857. These, it will be observed, commencing at rather a lower rate per cent., show a much higher rate at the advanced ages; and on the average of the whole, the rate per cent. of re-marriage of widowers to the total married members is about one-third higher.

Abstract R.

Proportion of Widowers Remarrying to total married members.

Ages.	Bengal Civil Fund.			Do. by Madras Military Fund, 1808 to 1857.		
	Married Members, No. Living.	Widowers, Married.	Rate per cent.	Married Members, Living.	Widowers, Re-married.	Rate per cent.
Under 25	148			787·5	5	·634
25	1305	$9^{2}{\cdot}1^{3}$	·766	7212·	50	·693
35	1326	14^{2}	1·056	6991·	53	1·187
45	1120·5	7^{2}	·625	4107·5	54	1·738
55	186, 81 } 267	1^{2}	·538	982	11	1·120
65	30, 15 } 45			354	2	·565
75	9·5, ·5 } 10·			58		
	4221·5	32	·758	19492	205	1·052

No marriages in the Bengal Civil Fund were recorded after 60, so that the last percentage was taken on the number living, 55-60.

130. Assuming that the widowers who re-marry will always bear some definite proportion to the numbers and ages of the married community from which they

come, I have approximated to the value by reserving the value of a pension to a wife and children at the date of marriage, supposing that this reserve would have to be made annually on the above proportion of existing married members.

131. The value of the contingent pension to the wife at the date of marriage may be taken from Table No. 19 according to the age of the husband at the time which is assumed as 30, 40, 50, 60, the mean of each decennial period. But it is not to be expected that marriages at the more advanced ages at which widowers marry would entail liabilities for the same number of children as first marriages; I have therefore assumed, as was done for the Madras Military Fund, that 3 children would be born to each of such marriages in equal proportion of the sexes, and one with another born 5 years after marriage. Consequently, the value of the contingent pension at birth would be discounted for 5 years.

The constant value of children's benefits at date of marriage would be—

Table No. 23,	Son's age 0 ..	146·97 × 1·5	= 220·4
No. 24,	Daughter's age 0 ..	267·90 × 1·5	= 401·9
		·7835 × 622·3	
		=	£487·3

132. From the data in Table No. 8 I had deduced a Table showing, out of 10,000 entering, the proportion who die or become widowers in each year, the survivors at each age being those who remain as married members, and thence the D and N columns and value of an annuity at 5 per cent. But after 50 it gave the value of the life annuity very high, and not being needed for the valuation, I have only included it at the end of the Tables for such general purposes as it may apply to. But it may be safely used in the middle periods of life for this required approximation. The whole process may be followed in the following little Table, in which I show the results of each step, and the final reserve which is required for the value of such future benefits proportioned to each married member living between the ages 25 and 65.

Abstract S.

Value of Benefits contingent on subsequent marriages.

Ages $x, x+10$.	1 Value of Contingent Pensions to Wife and Children.	2 Both.	3 Multiplied by proportion of Widowers marrying to living members married	4 Value of do. to each one living.	5 $N_x - N_{x-10}$	6 Col. (4) × Col. (5.)	7 Sum of Do	8 D_x	9 Col. (7) ÷ Col. (8.)
		£		£					£
55-65	1273·3 487 3	1760 6	× ·538	9 472	1706·1	16,160	16,160	263·7	61·28
45-55	1178 3 487 3	1665·6	× ·625	10·41	3882·6	40,418	56,578	584·	96·87
35-45	1132 1 487·3	1619 4	× 1·056	17·10	8499	1,45,342	2,01,920	1272	158·7
25-35	1073·5 487·3	1560·8	× ·766	11·956	18493	2,21,096	4,23,016	2716	155·8

The last column (9) gives the final estimated value of the contingent benefits at ages 25, 35, 45, 55, to the future wives and children of each living married member, provided they should hereafter become widowers and re-marry.

133. Amongst those who are living as married members, there are many who are married to second wives, and to whom of course the probability of marrying a third wife would not be so great as of others marrying a second wife. But the number of married members living during the 13 years from which the proportion has been deduced, also included those who had been married a second or third time, so that the probability may still be considered as correctly deduced. Out of 387 members, 28 married to a second, and 1 to a third wife, appeared to be the proportion living 1st January 1863.

134. By multiplying the values in the last column of the above Table by the number of married members, active and retired, living on 30th April 1863 in each decennial group of ages, the approximated value of the liability under this head is found to be £46,113, as follows:—

Ages.	Value to each.	Number of living married members.	Total value of liability for future Wives and Children.
	£		£
20	155·8	76	11,841
30	158·7	134	21,266
40	96·87	71	6,878
50	61·28	100	6,128
.....	.....	above 21	
		402	£46,113

On comparing the final value with the contingent liabilities of existing married members, $\frac{46112}{704022}$, we find it amounts only to 6·55 per centum; whilst in the Madras Military Fund, it was estimated at $\frac{82500}{629915}$ or 13·1 per centum, being just double. *Allowing that the return of widowers to the married list appears by the latter to be one-third higher, and for difference in the rate of interest we have reason to suppose that the present item is not over-estimated.*

135. *(e) Value of Contingent Benefits to Wives and Children of Bachelors and Widowers if they should marry hereafter.*—The values of the former have been obtained from the last column in Table No. 26 (B), and of the latter from No. 27 (B), the formation of which had been already explained.

136. The number of bachelors and widowers has been obtained at each age by deducting the total number of married members from the total number living at each age, and the value of the risk estimated alike for both classes, as the rate of widowers' marriages in Table 8 is only slightly in excess of bachelors, and the total number too few to require separate Tables.

The total number of bachelors and widowers appears to be 277; the value of liabilities for future wives, £147,404·1; for children, £99,286·9; total, £246,691.

137. This large item has not hitherto been brought to account in the previous valuations, but it is evident to me that if the subscriptions of bachelors and widowers are included in the contingent assets, it would be only right to assume that the liabilities they may bring on the Fund should be as far as possible definitely estimated. If the Fund were entirely closed to new entrants, the present subscriptions of unmarried members would be diminished year by year by death, but would be increased in the case of survivors by the increased marriage rate of two per cent. for those who married, independent of the increase by progressive salaries. But if the increase of marriage subscriptions be estimated in the assets, the contingent claims for wives and families at the date of marriage should be estimated in the liabilities. This I have endeavoured to do in the formation of Tables Nos. 26 and 27, as has been already explained, and as they are now applied to compute the probable necessary reserve. The increased value of the contingent assets by the subscriptions of unmarried members being augmented during married life, will be found included in the subscriptions on the other side of the account.

138. *(f) Value of Total Liabilities.*—The various items above described make up a total estimate of £1,584,316·8. They may be sub-divided as follows:—

		Accounts, 30th April 1863.		
		Present Valuation estimate at 5 p ct.	Estimate at 8 per cent.	Do assumed at 5 per cent, 10 lts. to the £
		£	£	£
Appropriated Funds, incumbent liabilities	...	538,644·5	420,029·9	526,353
Unappropriated ditto, contingent ditto	...	704,022·3	433,307·5	741,965
		1,242,666·8	853,337·4	1,268,318
Ditto not estimated in accounts rendered 30th April 1863	...	341,650		
		1,584,316·8		

Taking the estimated liabilities to 30th April 1863, presented by the managers to the Half-yearly General Meeting in January 1864, assuming 10 Rupees to the Pound, and converting the 8 per cent. into 5 per cent. reserves by the proportions given in Mr. Monteath's History of the Fund, (p. 22) viz., incumbent liabilities by ·798, and reversionary by ·584, we shall find that the present estimate now made for the same items is less by about £25,650, the large excess being entirely due to the new items to which no value has been given in the Fund accounts. It is also worthy of remark that the incumbent liabilities are only about £12,300 more by the present as compared with the former estimate, whilst the value of the contingent liabilities is about £37,950 less.

139. *Valuation of Assets.*—To meet these liabilities, the most important items are the realised capital of the Fund, and the value of the members' subscriptions, the remaining items being approximately valued by the general average of life. The donation proposed by the Government in lieu of additional interest on the ordinary capital, is an item in the assets to be considered specially in reference to this valuation made throughout at 5 per cent.

140. *(g) Realised Capital.*—This may be taken on 30th April 1863 as stated in the accounts presented at the Half-yearly General Meeting on 30th January 1864, merely dividing it into the appropriated funds that would be required by the present valuation for incumbent pensions, and the unappropriated funds for the contingent remaining liabilities.

	At 5 per cent. £		£	Value in 8 per cent Money. £
Appropriated Funds	538,644·5	Ordinary at 8 per cent.	310,908·3	310,908·2
		Additional at 4 per cent.	149,376·4	119,202·4
			460,284·7	430,110·6
Unappropriated Funds	67,224·1	Ordinary at 8 per cent.	21,149·7	21,149·7
		Additional at 4 per cent.	124,434·2	72,669·6
			145,583·9	93,819·3
Total	605868.6	Total	605,868·6	523,929·9

The difference between estimating the incumbent liabilities at 5 per cent., instead of the relative proportions in 8 per cent. and 4 per cent. as given in the accounts, is £78,359·8 in excess, which of course diminishes to that extent the amount of unappropriated funds applicable to the contingent liabilities; but against this must be set the value corresponding to part of the Government donation in lieu of interest.

141. *(h) Value of Members' Subscriptions.*—The mode of estimating this important item on the present occasion, so different from the plan hitherto pursued, has been fully explained in paras. 81 to 89, showing the composition of Table No. 30. In Table H I have given the number of members living at each age on 30th April 1863, in each class—bachelors, married, and widowers, active and retired—the number who have compounded, the value of subscriptions at age $x+\frac{1}{2}$, and the total value of the subscriptions as estimated for monthly payments by adding Rs. 413,111·6 × ·458.

142. It may be remarked that whilst in the list of members sent to me, 48 in the retired list appear to have compounded and there was a difference of 1, (who may also have compounded) the valuation by the annuities reckons on the full value for each. As these annuities principally fall at the advanced ages, the effect is somewhat to diminish the annual value of the annuity that would have resulted if those who have compounded had been left out, and consequently to diminish in some degree the value of the ordinary subscriptions at 2½ per cent., which is obtained from that average value.

143. The construction of the new Table No. 30 does not allow of a sub-division of the values of the subscriptions of each class separately, but the total at 5 per cent. may be compared with the totals given in the accounts 8 and 4 per cent., and for the whole in 8 per cent. money. The difference between the amount of annual subscriptions is probably explained by the fact that the statement, as valued in the accounts, is from the amount actually received in the course of the year ending 30th April 1863, whilst that in the present valuation is the amount payable as percentages on the actual incomes of the members as they stood on the 30th April 1863. This seems the more probable from the following comparison :—

Stated in valuation for accounts.		In accounts.	At 8 per cent.	At 4 per cent.
Total subscriptions—	Rs.		Rs.	Rs.
Ordinary ...	... 2,18,910	Subscriptions during the year	2,06,741	1,57,761
Additional ...	... 1,88,697			
Total	... 4,07,601	Contributions by annuitants paid in India ...	...	21,133
		Contributions by annuitants paid in England, and by absentees on furlough	14,670	7,356
			2,21,411	1,86,190
			4,07,601	

144. But it will be better to compare the classes of subscriptions receivable as valued at 8, and 4, and 5 per cent. in the accounts, and then examine the totals with the new valuations at 5 per cent.

	Per cent.	Subscriptions Rupees.	8 per cent. Rupees.	If valued at 4 per cent. Rupees.	5 per cent. Rupees.
Ordinary Subscriptions — Unmarried	2½	60,810	5,75,566		7,61,402
Ordinary Subscriptions — Married	2½	1,49,108	12,47,586		15,86,658
Ordinary Subscriptions — Annuitants	2½	8,992	58,771		70,362
			18,81,923		24,18,422
Additional for Wives	2	1,19,289		13,93,653	12,69,354
for Daughters	¼	80,729		2,99,303	2,74,663
for Sons	⅛	10,190		85,392	78,361
Annuitants		28,489		2,38,481	2,22,926
				20,16,829	
				×·4841	
				9,76,346	
		4,07,607	28,58,269		42,63,726
By new valuation ...		4,13,111·6			59,75,068

145. It thus appears that taking 10 Rupees to the Pound, the value of the total subscriptions in 8 per cent. money in the accounts would be only £285,827 and at 5 per cent. £426,373. By the method which I have adopted of estimating the whole of the subscriptions at the average rate paid in every year of age, with increasing salaries, the result will be £597,507, or an excess of £171,134 over a 5 per cent. valuation on the old plan. It must be remembered, however, that this is to cover all the liabilities of future marriages and families throughout the whole duration of the members' lives.

146. *(i)* The next largest item is the value of the Government donation in lieu of interest. As this forms one of the questions specially referred, and which I have considered separately in paras. 178 to 193, I need merely remark here that I have assumed the Government will allow the averages to be deduced from 4 per cent. on the capital standing to the credit of the ordinary branch on the accounts as adjusted on the 30th April in each year, 1858 to 1862 inclusive. They will then embrace the period between two valuations of the Fund, and will give 4 per cent. at equal intervals of a year on the capital as estimated for the objects of the ordinary branch. I take the amount of capital at each period from the printed accounts given in Mr. Monteath's report, Appendix II, and which is stated in Appendix XII to have been verified in the Office of the Accountant General, as follows :—

		Capital "Ordinary Branch," bearing 8 per cent Interest	4 per cent. on "Do."
		Rupees.	Rupees.
30th April 1858	...	26,42,532	1,05,701
1859	...	28,28,508	1,13,140
1860	...	28,96,857	1,15,874
1861	..	30,05,686	1,20,227
1862	...	30,65,911	1,22,636
		Average of 5 years ...	1,15,520

If this be admitted, the average annual donation by the Government in lieu of additional interest would be £11,552, and the fairest estimate we can put upon it is, I think, to compute its value by an annuity of 5 per cent. at the average age of the existing members. I find the average age of the 679 members on the 30th April 1863 to be very near 37, and the value of an annuity at that age by Table No. 18 is £12·644. The value of this donation to the existing members may be therefore estimated at £146,063·5.

147. *(j)* The other item of special reference is, as to the transfer from the "additional" to the "ordinary" branch of Rupees 8,95,744, on which the reply of the Government is favorable, provided the amount to be transferred shall have been reported and approved by the Secretary of State for India.

See copy of the Financial despatch to the Government of India, No. 225, dated 16th December 1863.

For the discussion of this question I refer to paras. 157 to 177; but assuming that the transfer will be eventually permitted, the request of the managers of the Fund may be considered as

taking effect, "that the 4 per cent. donation which will be claimable retrospectively on the amount so to be transferred, will be allowed to be taken into account in determining the future fixed donation proposed to be calculated on the average of the past 5 years." The effect of this decision will be to add 4 per cent. on 8,95,744 Rupees, or £3,583 to the Government annual donation, and which, estimated by the same annuity as the last item, gives £45,303·5 as the value of this item to the existing members.

148. (*k.*) The annual donation from the Government (sanctioned 1808) may be estimated by the same average annuity, £2,500 × 12·644, giving £31,610 for the value to the existing members.

149. There remain only some comparatively small items in favor of the Fund, of which it would be difficult to arrive at any actual estimate with the present available data. The composition payments by future annuitants need not be valued at all. Their subscriptions being already included in the valuation, the compositions may be considered as the equivalent according to age.

150. The minimum of one-third the value of pensions assignable to widows and children to be made up on the death of the subscribers, (after allowing for the whole of the subscriptions with interest,) either by payment at once or by deduction of one-sixth rateably on each pension until the minimum is completed, would cease after a time to have any value, if the Fund be considered as closed to new members. Supposing members to enter at 20, there would be an average period at which the contributions would amount to one-third of the value of the pensions. But to estimate it we should have to average the period of marriage, the age of the wife and disparity of age of husband, the number and sex of the children, as all affecting the amount of the contributions at interest, or the value of the pensions. It would also be required to take into account the members' proportionate share in the Government donation in lieu of interest. The item is too small to be worth this elaborate enquiry.

151. Fines generally continue only for married life, but they depend on the uncertain event of making known the dates of marriage or births of children. Disparity fines for difference of age on marriage being in case of the difference exceeding 10 years, would fall mostly when the marriages take place at the more advanced periods of life and on the re-marriage of widowers. By the Table given in para. 34 it will be noticed that it is only after age 35 of the husband on first marriage that the average difference of the age of the wife exceeds 10 years, and that these marriages do not constitute more than 11½ per cent. of the whole number. It would scarcely be worth while, therefore, to calculate a Table from these scanty materials.

152. The payments to make up Rs. 25,000 on retirement must also be few in number and small in amount, and, as the Secretary observes, have been gradully diminishing since 1850. The same difficulty in forming a true estimate would occur as in the case of valuing minimum for pensions.

153. Since nearly all our valuations depend upon age, the three items might be estimated with sufficient accuracy, if for a series of years the payments made at each age were averaged and compared with the total number of members, or of married members, living at the same ages; but in the absence of these facts, considering that such payments may occur at intervals during the continuance of the Fund, I believe a sufficiently near approximation may be found by taking instead of a single year the average of each for the past five years 1858 to 1863, and then multiplying it into the average value, as before, of an annuity of a member's life, or 12·644. On this principle the following estimate was made:—

		Average 1858 to 1863.	Value.
		£	£
(*l.*)	Deduction of $\frac{1}{6}$th from pensions for minimum of one-third of value	1564·3	19,779
(*m.*)	Fines (including for disparity of age)... ...	423·6	5,356
(*n.*)	Payments to make up Rs. 25,000 (or half) on retirement	445·2	5,629

154. The only remaining item is the estimate for establishment charges, which on the average of the past five years, £487·7, and also valued by the annuity on the average life of existing members, gives £6,166·5.

155. With these explanations I present the following valuation or balance sheet showing the state of the Fund on 30th April 1863:—

Bengal Civil Fund—Valuation, 30th April 1863.

ASSETS.	New Valuation, 5 per cent.	
	£	£
g. Realised Capital. (1) Appropriated Funds ...	538,644·5	
(2) Unappropriated Funds ...	67,224·1	605,868·6
h. Value of members' subscriptions, 630 } 679 = £41,311·2 ... Compounded, 49 }	.....	597,506·8
i. Value of Government Donation in lieu of interest, £11,552 per annum	146,063·5	
j. Value on transfer from additional to ordinary funds, £3,583 per annum	45,303·5	191,367·
k. Value of Annual Donation from the Government (sanctioned 1808), £2,500 per annum ...	.....	31,610·
l. For minimum ⅛ from pensions average 1859-63 5 years, £1,564·3	.....	19,779·
m. Fines, including for disparity of age, average 5 years, £423·6	.....	5,356·
n. Payments to make up 25,000 Rupees (or half) on retirement, average 5 years, £145·2 ...	.....	5,629·
		1,457,116·4
Deficit	.....	133,366·9
	£	1,590,483·3

LIABILITIES.	New Valuation, 5 per cent. No.	Annuity.	Value of do.	Total.
		£	£	£
a. Appropriated Funds.				
Old Rule. (1.) Widows' Pensions	56	14,417	150,328·6	
(2.) Daughters	48	3,548	40,379·1	
(3.) Sons	5	305	1,093·6	
	109	18,270	191,801·3	
Do. assigned since 1850. (4) Widows	8	1,996	20,551·9	
(5) Daughters	2	200	2,406·9	
(6) Sons	.....	.....	.....	
	10	2,196	22,958·8	
New Rules. (7) Widows' Pensions	55	15,450	198,552·2	
(8) Daughters	73	6,280	74,646·9	
	Marriage portion.	21,900	8,324·8	
(9) Sons	66	5,080	42,360·5	
	194	26,810	323,884·4	
Total ...	313	47,276 21,900	538,644·5	538,644·5
b. Value of Contingent Reversionary Pensions.				
Active. (10) Wives	288	.....	318,630·3	
(12) Daughters	397	.....	114,822·6	
(14) Sons	394	.....	41,585·8	
Retired. (11) Wives	114	.....	139,543·3	
(13) Daughters	225	.....	75,424·8	
(15) Sons	210	.....	14,015·5	
	1,628	.....	704,022·3	704,022·3
c. Value of Contingent Benefits to future children of existing marriages	.....	.....	.....	48,846·
d. Value of Contingent Benefits to subsequent wives and families of existing married members ...	.....	.....	.....	46,113·
e. Value of Contingent Benefits to wives and families of existing bachelors and widowers (if they should marry hereafter)	.....	.....	.....	246,691·
f. Value of Total Liabilities	.....	.....	.....	1,584,316·8
Estimate for Expenses	.....	.....	.....	6,166·5
			£	1,590,483·3

The deficit appears to be £133,367. But it must be remembered that on the other side of the account I have included heavy items which have not been taken into estimate before, and that the deficit falls considerably short of what Mr. Monteath anticipated by a rough computation on somewhat the same principles as I have more completely carried out.

156. Before making any suggestions on this result, it will be better to consider the three questions specially referred to the Actuary for his opinion, as upon their decision part of the valuation depends; and I have proceeded on the assumption that the two first have been virtually settled.

Questions on which the Actuary is requested to report specially.

157. I.—The reply of the Secretary of State to the application made in April last for the transfer of Rs. 8,95,744 of capital now standing in the additional or 4 per cent. account to the 8 per cent. account.

This question is discussed in Appendix XII of Mr. Monteath's Report, and the object of the application is very clearly explained in the letter, dated 30th April 1862, addressed to the Government of India by direction of the Managers.

158. Prior to 1850, when the objects of the Fund were essentially charitable and confined to benefits to such of the families of deceased subscribers as might be left without adequate private means, the Government allowed 8 per cent. interest on all the funds.

159. But when, in 1850, the objects of the Fund were enlarged, the Court of Directors declined to allow the same high rate on the additional subscriptions required for the new objects of the Fund, but only on such proportion of the capital and subscriptions as represented the original objects. At the same time 5 per cent. was provisionally agreed to on the additional funds; but in July 1851 the Managers announced to the General Meeting that the Court of Directors had disallowed this provisional arrangement, and would only allow 4 per cent. on the additional funds. In 1852 it was decided that 4 out of the 8 per cent. should be regarded as a donation.

160. This being the case, it is evident that the Government intended to allow the additional interest or donation of 4 per cent. upon all funds that might be required to carry out the original objects, as a charitable Fund.

161. When the investigation was made by the Actuary, Mr. Davies, in 1850, into the position of the Fund, it was ascertained that the finances were in a very unsound condition, and the capital fell considerably short of the value of the actually incumbent liabilities, whilst for the value of the contingent liabilities there was no capital at all. But the members of the service undertook to make good the deficiency, and a heavy extra rate of contribution was submitted to. The proceeds, however, instead of being applied to make up the deficiency in the "ordinary" fund at 8 per cent. interest, as allowed by the Government, were all credited to the "additional" or 4 per cent. interest fund.

162. As there can be no doubt that the original objects of the Fund, not having ceased, but having been merely extended, would take precedence of any recent alterations, there can be no reason to suppose that if application had been made at the time to transfer any other funds that might be in hand, or to accumulate any ordinary or extra subscriptions first of all to make solvent the ordinary fund, and then to apply the surplus to make up the deficiency on the additional fund, the Government would readily have complied with the request. This would have been merely to have carried out the original intention in granting the donation, and in this spirit the application has since been met. The Secretary of State, in his reply as communicated to the Managers by the Government of India, enquires in what manner and upon what grounds the deficit in 1850 is stated at Rs. 8,95,744, whilst Mr. Davies' estimate amounted only to Rs. 6,10,272, and Mr. Neison's was still more favorable. He also desires to be informed how far the deficit in the original fund had been met by additional subscriptions on which the Government was paying 8 per cent., but adds "(4) When the amount of the deficit in the capital applicable to the original objects of the Fund shall have been accurately ascertained and transferred, I sanction the payment of the full rate of 8 per cent. interest on that amount, but only from the date of the recent application of the Managers."

163. On the 1st September 1863 a letter was addressed by the Secretary of the Fund to the Government of India, the 6th paragraph of which, relating to this subject, is as follows:—

"(6). The Managers also desire me to request the favor of your informing them whether, in the event of a transfer of certain funds from the 'additional' to the 'ordinary' branch of the Institution being effected as per correspondence quoted in the margin, the 4 per cent. donation claimable on the amount so transferred would be allowed to be added to the fixed donation proposed to be calculated on the average of the past five years. The expected advantage to the Institution from the proposed transfer of funds consisted of the donation of 4 per cent. receivable thereon, and to secure this advantage under the alteration of circumstances which has been suggested by the Secretary of State, it would of course be necessary to allow the donation receivable on the transferred funds to be added to the fixed donation, proposed to be calculated on the average of the past five years. The question in fact amounts to this: whether by adopting the Secretary of State's suggestion, which forms the subject of this letter, the Fund will, or will not, debar itself from the benefit of a totally distinct arrangement already sanctioned conditionally on independent grounds. The Managers hope that in the event of the transfer of funds being carried out, the enjoyment of the benefit thereof will be made compatible with the adoption of the suggestion now under consideration, by permission being given to add the 4 per cent. donation on the transferred funds, to the donation proposed to be calculated on the average of the past five years."

Secretary of State's Despatch to the Government of India, in the Financial Department, No. 217, dated the 27th December 1862, received under cover of Financial Department docket No. 269 A, dated 7th February 1863.

Financial Despatch Docket No. 942 of 17th March 1863, Reply No. , dated the 7th July 1863.

164. The copy with which I was favored through Messrs. Coutts, of the Financial Despatch to the Government of India, dated 16th December 1863, No. 225, contains the following reply :—

"(4.) You also state that the Managers of the Fund express a hope that in the event of the transfer being sanctioned from the 'additional' to the 'ordinary' branch of the Institution, which was referred to in the correspondence noted in the margin, the 4 per cent. donation, which will be claimable retrospectively on the amount so transferred, will be allowed to be taken into account in determining the future fixed donation proposed to be calculated on an average of the past five years.

Financial letter from India, dated 26th May 1862, No. 75.

Financial Despatch to India, dated the 27th December 1862, No. 217.

"(5.) Her Majesty's Government would not object to accede to this request, but I have to observe that the information called for in the Financial Despatch dated the 27th December 1862, No. 217, has not yet been furnished, and until the amount to be transferred under the authority therein conveyed shall have been reported to me and approved, no decision must be passed by you in regard thereto."

165. From these extracts it may be concluded that the Right Hon'ble the Secretary of State for India concurs in the principle upon which the reasonableness of the claim is founded, and that the only point to be adjusted is the amount to be transferred from the 4 per cent. to the 8 per cent. funds.

166. The valuation of Mr. Davies to 1st January 1850 was made under the disadvantage of not having before him the actual facts as to incumbent pensions, which were not paid in full in consequence of the rule respecting private property. Putting the whole value of the pensions at £317,684·5, he roughly estimated the deductions on this account at one-fourth, or £79,921·1, leaving £237,763·4 as the value of these liabilities:

		Rs.
Converted into Rupees at 1*s.* 11*d.* =	...	24,81,009
Estimated assets, 1st January 1850	..	18,70,737
Estimated deficit	...	6,10,272

167. But the Secretary having had a detailed valuation made to 1st January 1850, in which, besides some minor corrections in the Tables as to half-yearly or quarterly payments, the actual pensions paid were valued, instead of the rough corrections of three-fourths of the full values, the estimated value of the pensions was found to be—

	On 1st January 1850. Rs.
£278,365 =	28,50,457
And the assets corrected . .	18,45,075
Deficit ...	10,05,382

On 30th April 1850.

		Rs.
And £2,68,270·1 =		27,47,086
Assets, 8 per cent.	18,17,304	18,51,342
4 per cent.	34,038	
Deficit ...		8,95,744

As these valuations are stated to have been made by the same Table as that of Mr. Davies, only corrected for the actual pensions payable, there can be no doubt that on the 30th April 1850, the deficit to be made up would be £895,744, even after throwing in the small amount standing to the credit of the 4 per cent. Fund. If there had existed at that time any other funds from which a transfer could be made to cover this deficiency, the Government would have allowed the 4 per cent. donation thereon, since the computations were made at 8 per cent. interest and the total fund when so made up would have been only adequate to carry out the original objects of the Institution. The additional interest would have assisted to make up the required capital at an earlier period, and thus set free a considerable amount of the annual subscriptions to increase the capital of the additional fund.

168. Assuming, however, that there were no further funds to transfer to the 8 per cent. account in 1850, it would be but fair and reasonable that all the excess of subscriptions over payments as they came in, should be applied, first, to place in a state of solvency the "ordinary" branch for the original object of the Fund. At the three successive valuations 1853, 1858, and 1863, any deficit then appearing should also be made up by transfer from the "additional" branch.

169. If the operation of the new rules had been suspended until the amount required for the original fund had been completed, the subscriptions would have accumulated faster, being then all at 8 per cent. interest; but as this was not done at the time, it may be argued on the part of the Government that members are not entitled to a greater privilege than that the excess of the receipts over payments in the additional branch should be devoted to the original objects till the requisite capital was realised.

170. As the proportion of payments of new rule pensions to old rule pensions has been continued as 2 to 1 up to 1st October 1862, instead of 53 to 47 per cent., as suggested by Mr. Davies, and as the accounts have been kept on the former principle, I shall, for the purpose of this enquiry, assume that the former rates had been continued a few months longer, till April 1863, to show the realised capital which ought to be in hand for the ordinary branch for each of the valuations 1853, 1858, and 1863, and the deficit which should have been made up by transfer from the "additional" Funds.

171. If the effect of using the proportion $\frac{2}{3}$rds has been to diminish the 8 per cent. funds too much, the valuations at that rate will make the deficit greater, and show a larger balance to be restored to the 8 per cent. fund. The expenses of management, 1853 and 1858, having been charged to the additional funds, I have for comparison assumed the same for 1863.

Date of Valuation.	Ordinary Branch, 8 per cent.		Total.	Realised Capital.	Value of Ordinary Income.	Total.	Deficit.
	Value of Incumbent Pensions.	Value of ⅔rds of Contingent Pensions.					
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
30th April 1853 ..	26,00,988	21,21,961	47,22,949	21,25,040	21,45,783	42,70,823	4,52,116
" " 1858 ...	29,83,830	24,34,829	54,18,659	26,42,531	22,60,471	49,03,002	5,15,657
" " 1863 ...	34,55,699	29,58,046	64,13,755	33,20,579	22,23,651	55,44,230	8,69,515

172. By adding the value of two-thirds of the contingent pensions to the value of incumbent pensions in the ordinary branch, we obtain the total liabilities which are to be met partly by realised capital at 8 per cent. and partly by the estimated value of the income in this branch. We see that at each valuation the realised capital is approaching nearer the value of incumbent pensions; but the estimated value of the contingent pensions under the ordinary branch increases so much faster, that the deficit is considerably greater in 1863 than in 1853.

173. But this deficit might have been covered at each date by a transfer from the additional or 4 per cent. funds, though in 1853 but a small amount of 4 per cent. capital would have been left. The deficits, however, would have been much less, because the Government in the mean time would have been allowing the additional 4 per cent. donation on the total realised capital in the ordinary funds.

174. I now proceed to estimate as near as possible what total amount the Government would have paid under the head of additional interest in each year since 1850, if the excess of receipts over payments in the additional fund had been allowed as far as was necessary to make up the deficits which appear above at the quinquennial periods 1853, 1858, and 1863.

	Transfers from additional to 8 per cent. Fund.	Total accumulations of do.	Total Interest on accumulations at 8 per cent.	Deficit to make up.
	Rs.	Rs.	Rs	Rs.
30th April 1850	34,038	34,038	2,723	
1851	1,72,096	2,06,857	16,709	
1852	1,06,318	4,21,884	33,751	
1853	.....	4,55,635	36,451	4,52,116
1854	.....	4,92,086	39,367	
1855	.....	5,31,453	42,516	
1856	.....	5,73,969	45,918	
1857	.....	6,19,887	49,591	
1858	.....	6,69,478	53,558	5,15 657
1859	.....	7,23,036	57,843	
1860	.....	7,80,879	62 470	
1861	.....	8,43,349	67,468	
1862	.....	9 10 817	72,865	
1863	.....	9,83,682	.....	8,69,515
	4,02,415		5,81,239	
			2,90,615	

175. It appears by this Table that if the transfer of all surplus receipts over payments in the additional funds for the first three years 1850, 1851, and 1852, had been carried out, there would have been no need of any further transfers. Those funds would have accumulated at 8 per cent., and would at each quinquennial valuation have shown a surplus instead of a deficit on the ordinary branch.

176. The 4 per cent. extra interest or donation, each year, would have amounted to half the whole interest paid, or Rs. 2,90,615, to which extent the entire funds of the Institution would have benefited.

177. During the last of the five years ending 30th April 1863, the Government would have been paying extra Rs. 31,420 per annum, and they would commence the new quinquennial period with an annual donation of 4 per cent. on Rs. 9,83,682, or Rs. 39,344. Allowing, therefore, for a fair and reasonable compromise in such a case, I would suggest that £3,500 a year should, on account of this claim, be allowed to be included in the 5 years' average, on which the future donation is to be computed. In my valuation I have assumed the original application to be granted, and the results will be but slightly modified if my present recommendation should be approved by the Managers, and accepted by the Secretary of State for India.

178. II.—The proposal of the Secretary of State in regard to the substitution, in lieu of the indirect aid of 4 per cent. additional interest on the ordinary branch capital, of a fixed annual donation, calculated on the average amount of that indirect aid for the last five years, the balance of the funds in that case standing at 5 per cent. interest, and the rate of exchange annually fixed for transactions with the British Exchequer being allowed to the Fund for payments made in England.

179. There can be no doubt that, if this proposal can be accepted without pecuniary detriment to the Fund, the other advantages will be very great. The necessity of keeping accounts in two branches of funds, at different rates of interest, is a serious drawback when the proportions of liabilities under each can only be estimated by rough averages, which are constantly varying. It has been seen that the estimated proportion of original fund pensions to the total has been taken at ⅔rds; that it was computed by Mr. Davies at 53 per cent., and in the present valuations seems to be nearer 59 per cent. But all these depend on the correctness of the number of families assumed to be wholly independent of the Fund. In fact the proportions are constantly varying.

180. Again, the computation of money values at one rate of interest, converted into others at a different rate, can only be made by rough averages which vary with each class of subscriptions or pensions, incumbent or contingent, and at every valuation differ from each other.

181. All this is very unsatisfactory, and when applied to transactions involving such large amounts, render it extremely desirable to adopt any proposition which, without loss to the Fund, will allow of the accounts being simplified, and the estimate of liabilities and assets made at one rate of interest.

182. The Committee, to whom this question was referred, have in their report of 21st May 1863, clearly shown in a popular manner the progress of the funds, and the way in which the fixed donation in lieu of interest would affect them, and come to the conclusion that if certain doubtful points are admitted by the Secretary of State for India, as they assume them to be, they are on the whole inclined to recommend the adoption of the proposal.

183. These points are—1st. Whether the 5 per cent. interest will apply to the whole of the funds, whether "additional" or "ordinary."

See letter from the Fund, to the Government of India, dated 1st September 1863.

2nd. That the adoption of the measure will not involve any alteration in the arrangement, whereby advances made in England for the payment of pensions are recovered from the Fund twelve months after date, with interest at £4 per cent.

184. The reply of the Secretary of State for India, bearing date 16th December 1863, No. 225, specifically admits both these propositions, together with the principle involved in the preceding question, which has an important bearing on this decision.

185. Following the arguments of the Committee, and being unable, from the great changes which are going on in the service, to fix very accurately the time when the liabilities under the ordinary branch will reach their maximum, I am yet clearly of opinion that on the whole the advantages are decidedly in favor of the acceptance of the proposal.

186. I will merely illustrate it in a different point of view by the results of the present valuation, taking the "ordinary new rule incumbent or contingent pensions" as 55 per cent. of the whole, as compared with the 8 per cent. valuation in the accounts already presented to the members.

LIABILITIES.	5 per cent. valuation. £	8 per cent. valuation. Rs.
Value of incumbent liabilities, Old rules - -	214,760·1	17,64,885
New rules, 55 per cent. ...	178,136·4 (53 per cent.)	13,44,197
	392,896·5	31,09,082
Contingent liabilities for existing married members, 55 per cent. - -	387,212·3 (53 per cent.)	23,51,646
Do. for future children by present wives - -	26,865·3	...
Do. for future wives and families - - -	25,362·2	...
Do. for existing bachelors and widowers, 55 per cent.	135,680·7	...
Total ...	968,016·3	54,60,728

	£	£	Rs.	Rs.
Total, liabilities brought forward		968,016·3		54,60,728
ASSETS.				
Realised capital, appropriated fund - - -	392,896·5		31,09,082	
Do. unappropriated, 55 per cent. - - -	36,973·3		2,11,498	
Value of Government donation in lieu of 4 per cent. interest - - -	146,063·5			
Do. on transfer of stock ...	45,303·5			
Do. on £2,500 ...	31,610		2,56,768	
Value of members' subscriptions, 55 per cent. -	328,628·7		18,81,923	
Do. of minimum fines, &c., ditto - - -	16,920·2		84,960	
		998,395·7		55,44,231
	Surplus ...	£30,379·4	Rs. ...	83,503

187. It thus appears that whilst by the new valuation there would be a surplus in the ordinary branch of £30,379, after bringing in the proportion of liabilities for the future wives and children of present married members as well as for wives and children of present bachelors and widowers, there would, in the 8 per cent. valuation, be only a surplus of Rs. 83,503 or £8,154.

188. On the other hand, if a comparison be made of the "additional" branch by throwing in the above surpluses, taking the old valuation at 4 per cent. and the new at 5 per cent., we shall have the following figures :—

LIABILITIES.	5 per cent. valuation. £	4 per cent. valuation. Rs.
Value of 45 per cent. proportion of incumbent new rule pensions - - -	145,748	17,17,146
Do. contingent pensions to present wives and families	316,810	43,06,916
Do. do. to future children by present wives -	21,980·7	...
Do. do. to future wives and families - -	20,750·8	...
Do. do. to future wives and families of present bachelors and widowers -	111,011	...
Estimate for expenses of management - -	6,166·5	1,03,058
	622,467	61,27,120

	£	£	Rs.	Rs.
Total, liabilities brought forward		622,467		61,27,120
ASSETS.				
Realised capital appropriated fund, 45 per cent. of new rule pensions -	145,748·		14,93,764	
Do. unappropriated (45 per cent.) - - -	30,250·8		12,41,342	
Value of members' subscriptions (ditto) - -	268,878·1		20,16,829	
Do. minimum fines, &c. (do.) ...	13,843·8		1,82,520	
		458,720·7		49,37,455
		163,746·3		11,89,665
Deduct surplus from ordinary fund - - -		30,379·4		83,503
Deficit ...		£133,366·9		11,06,162

189. The deficit by the new 5 per cent. valuation would on the whole fund be £133,367, and by the old valuation, 8 per cent. for ordinary and 4 per cent. for additional branch, would be Rs. 11,06,162 or £108,023. But in the former we have brought into account no less than £341,650 for liabilities to future wives and children, which are not included in the latter. This large item is partly met by the enhanced value of the subscriptions, which includes the probable increase on bachelors marrying; but, on the whole, I look upon the comparison as decidedly favorable to the change proposed.

190. There remains one objection to the proposal, which ought to be considered, before the matter is finally settled. If the number of members in the Civil Service should be materially increased beyond the present establishment, the proportion of their subscriptions under the old rules would tend considerably to augment the 8 per cent. fund under which the Government would now allow the annual donation of 4 per cent. But if the donation is fixed, there would be no corresponding increase of interest under the new proposition.

191. Perhaps the Government might be disposed to agree, that should the number of the Bengal Civil Servants be permanently increased, compared with the present number, some corresponding increase should be made in the fixed annual donation. Justice to the present members seems to require some such concession, as their interest in the fixed donation would otherwise be diminished by sharing it with increasing numbers of new members.

192. In computing the fixed donation, I have assumed that there would be no difficulty in allowing it to stand as 4 per cent. on the realised capital of the ordinary branch as shown in the accounts on the 30th April in each year, 1858 to 1862 inclusive, thus

including and terminating with the quinquennial period for investigation and with the date of the present new valuation.

193. The average rate at 4 per cent. for this period, as I have shown in para. 146, would be £11,552 per annum, say £11,600 per annum, which, with the donation on the assumed transfer of capital to this branch, would very nearly correspond with the actual amount which I have shown in the valuation.

194. III.—Mr. Beadon's proposal to reduce the rate of subscription from 2½ per cent. ordinary and 2 per cent. additional, as at present, to 1½ per cent. ordinary and 1 per cent. additional respectively, and the Managers' modification of the above proposal.

195. From the deficit which appears in the present valuation, I regret I cannot recommend the adoption of such a measure at present, however anxious to diminish the rates, and not to throw on the present members the burden of completing the task, some portion of which, it is evident, should have been borne by earlier members.

196. Mr. Monteath has justly observed that the comparative valuations in his Report, if not strictly full and accurate in every particular, may yet be used as indications of the progress or retrogression of the Fund during the last 10 years; they tend clearly to show a great improvement in the condition of the Fund during the last 10 years, the more so, as the propositions of both Mr. Davies and Mr. Neison to increase the percentage of the subscriptions were not carried out by the members.

197. If the rate of "ordinary" subscriptions had been raised from 2½ to 3 per cent., as proposed in 1852, or even the extra married rates from 2 to 2½, the Fund would probably have been now in nearly a solvent condition, even taking into account all the items which have for the first time been brought into valuation.

198. But if the deficit be divided into two parts, the first representing the proportion for existing members, and the other for future members to make up, I think it would be fair to allow the former to correspond nearly with the present value of an average annuity on the members' lives compared with a perpetuity of 5 per cent. or $\frac{12 \cdot 644}{20}$ = about 60 per cent. The deficit to be borne by present members would then be £133,366·9×·6=£80,020. This being compared with the total value of the subscriptions, shows $\frac{80020}{597308 \cdot 8}$ =·134, or 13·4 per cent. This would indicate that the 2½ per cent. subscriptions should be raised to 2·835, and the 4½ per cent. to 5·103, or say 3 per cent. from unmarried and 5 per cent. from married members, dropping the terms "ordinary" and "additional" as passing out of use under the new arrangements.

199. The subscriptions for new members should also be raised to these rates, and they would then bear their part towards working off the remainder of the deficit, £53,347.

200. Although this seems reverting to a proposition already rejected, I regret to say that I see no hope at present for a reduction of the rates, not even to the extent of the Managers' modification of Mr. Beadon's proposal.

General Conclusions.

201. In making the valuation, I have endeavoured to estimate as nearly as possible every liability which may come upon the Fund under its present rules or proposed alterations. On the other hand, I have, in the mode of valuing the subscriptions and other items, reckoned every thing that can be carried to its credit. But there are evidently changes going on, especially with regard to retirements, and the proposals of the Government, which may render useless any elaborate comparisons with past valuations, and very speculative any opinion as to the progress of the Fund hereafter.

202. On the whole, it seems very advisable to adopt the alterations proposed which simplify the operations of the Fund, and to continue to record the statistics which I have analysed in this Report, so that at the next quinquennial valuation a more minute comparison may be made by the new methods and on the new basis.

203. Taking 20 as the average age of entry of an unmarried member, the value of all future payments at commencement, £690, falls considerably short of the estimated benefits to his wife and children on the probable contingency of his marrying thereafter, which are then computed at about £945. Although the subscriptions may be slightly increased by fines or deductions from benefits, and although the Tables may be modified by the more fully recorded experience, there appears to be just reason for concluding that the moderate increase in subscriptions which I have named will be found more necessary the longer it is deferred.

The benefits of the Fund, as enlarged in 1850, are so great as to be worthy of a corresponding sacrifice, and I trust this investigation will enable the Managers to gain a clear idea of its actual present position, and effectually to carry out on a sound basis the important objects of its amended constitution.

I have the honor to be,

GENTLEMEN,

Your obedient Servant,

SAMUEL BROWN,

Actuary.

GUARDIAN ASSURANCE OFFICE,
11, LOMBARD STREET, LONDON,
27*th February* 1865.

VALUATION, 30TH APRIL 1863.

ORIGINAL DATA AND TABLES

OF

MONEY VALUES DEDUCED THEREFROM.

INDEX TO TABLES.

Original Data and Tables of Money Values Deduced therefrom.

Tables.

1.—Observations of mortality amongst members of the Bengal Civil Service, who entered in the successive decennial periods from 1801 to 1858 inclusive.

2.—Observations of mortality amongst members of the Bengal Civil Service, who entered in the two periods 1801 to 1830, and 1831 to 1858, and in the whole period, 1801 to 1858 inclusive.

3.—Observations of mortality amongst retired annuitants of the Bengal Civil Service, who had entered the Service 1801 to 1858 inclusive.

4.—Bengal Civil Service, showing the deaths, resignations, and retirements, in each year of Service, for the 52 years, 1790 to 1841 inclusive.

5.—Bengal Civil Fund.—Pensioners.—Observations of mortality and marriage in the 13 years 1850 to 1862, inclusive, amongst widows, who were either living 1st January 1850, or became widows since that date.

6.—Bengal Civil Fund—Pensioners.—Observations of mortality in the 13 years, 1850 to 1862 inclusive, amongst male children living as pensioners, 1st January 1850, or admitted since.

7.—Bengal Civil Fund.—Pensioners.—Observations of mortality and marriage in the 13 years 1850 to 1862 inclusive, amongst female children who were living as pensioners, 1st January 1850, or admitted since.

8.—Bengal Civil Fund.—Observations of mortality, withdrawal, marriage, and retirement in the 13 years, 1850 to 1862 inclusive, amongst members who were living 1st January 1850, or who entered since that date. Bachelors, married members, widowers—active and retired.

9.—Bengal Civil Fund.—Observations of mortality, withdrawal, and widowhood in the 13 years, 1850 to 1862 inclusive, amongst the wives of members who were either living on 1st January 1850, or were married since.

10.—Bengal Civil Fund.—Observations of mortality, withdrawal, and pensionment, amongst the sons of living members in the 13 years, 1850 to 1862 inclusive.

11.—Bengal Civil Fund —Observations of mortality, withdrawal, marriage, and pensionment amongst the daughters of living members in the 13 years, 1850 to 1862 inclusive.

12.—Bengal Civil Fund.—Ages of 244 bachelors who have married in the 13 years since 1st January 1850, and the ages of their wives at date of marriage.

13.—Bengal Civil Fund. Widows, sons, and daughters admitted as pensioners from 1st January 1850 to 1st January 1863, at their ages of date of admission.

14.—Bengal Civil Fund.—Married members living 1st January 1850 at their ages last birthday, with the ages of their wives and number of living children to each family provided for.

15.—Bengal Civil Fund.—Married members living 1st January 1863 at their ages last birthday, with the ages of their wives, number of years since date of marriage, and the ages of the children of both sexes subscribed for, and living at that date.

16.—Bengal Civil Fund.—Pensioners and members, active and retired, living at each quinquennial period of age on 30th April, 1853, 1858, and 1863.

Table No. 1.

Observations of Mortality amongst the Members of the Bengal Civil Service who entered in the successive decennial periods from 1801 *to* 1858 *inclusive.*

	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	Entered the Service 1801 to 1810, inclusive.						Entered the Service 1811 to 1820, inclusive.						Entered the Service 1821 to 1830, inclusive.					
				Withdrawn.						Withdrawn.						Withdrawn.		
Age.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.
14	1	1																
15	9	10																
16	25	35					1	1										
17	39	74	2		1		24	25					4	4				
18	72	143	1		2		54	79	4				106	110				
19	38	178	3		...		54	129	2				107	217	4			
20	24	199	4		2		9	136	4				44	257	8			
21	7	200	..		3		3	135	1		...		13	262	4			
22	2	199	1		...		2	136	6	...	1		9	267	6		1	
23		198	3		...			129	2		...			260	3		2	
24		195	4		2			127	2		1			255	3		...	
25		189	3		2			124	4		...			252	8		1	
26		184	4		..			120	2		...			243	4		1	
27		180	4		1			118	5		...			238	5		1	
28		175	4		1			113	2		3			232	5		1	
29		170	2		1			108	2		3			226	4		...	
30		167	3		...			103	3		...			222	...		...	
31		164	1		1			100	...		...			222	5		...	
32		162	3		1			100	1		...			217	2		2	
33		158	2		1			99	3		...			213	2	1	3	
34		155	4		...			96	...		...			207	8		..	
35		151	3		2			96	6		...			199	1	1	...	
36		146	...		...			90	1		...			197	4		2	
37		146	4		1			89	1	1	1			191	...	...	1	
38		141	4		...			86	3		...			190	5	1	2	
39		137	7		...			83	1		1			182	2	...	...	
40		130	5		...			81	1		...			180	3	2		
41		125	4	2	...			80	1		1			175	2		1	
42		119	1	3	1			78	...		2			172	2		...	
43		114	7	5	2			76	1	4	1			170	3	5		
44		100	1	11				70	2	8	...			162	3	20	1	
45		88	1	5				60	1	6	1			138	6	16	...	
46		82	3	8				52	...	9				116	4	11	...	9
47		71	1	9				43	...	3				92	...	9	1	12
48		61	1	6				40	2	3				70	...	13	...	11
49		54	1	4		1		35	..	4				46	1	6		6
50		48	4	4				31	...	2				33	1	2		8
51		40	2	6				29	1	4				22	1	4		4
52		32	1	6				24	...	4				13	...	1		5
53		25		7				20	1	1	1			7	...			1
54		18		...				17	2	1				6	1			2
55		18		...				14	...	4				3				3
56		18		4				10	2	1		1						
57		14		1				6	...			1						
58		13		...				5	1			1						

Table No. 1.—*(Continued.)*

Observations of Mortality amongst the Members of the Bengal Civil Service who entered in the successive decennial periods from 1801 *to* 1858 *inclusive.*

	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	Entered the Service 1801 to 1810, inclusive.						Entered the Service 1811 to 1820, inclusive.						Entered the Service 1821 to 1830, inclusive.					
Age.	Entered.	Lived.	Died.	Withdrawn. Annuitants.	Withdrawn. Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Withdrawn. Annuitants.	Withdrawn. Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Withdrawn. Annuitants.	Withdrawn. Other causes.	In the Service 30th April 1859.
59		13	1	2				3				...						
60		10	1	2				3				1						
61		7	1	2				2	1	1								
62		4	1	2														
63		1																
64		1																
65		1																
66		1		1														
	217	5065	102	90	24	1	147	3201	71	56	16	4	283	6268	110	92	20	61

	Entered the Service 1831 to 1840, inclusive.						Entered the Service 1841 to 1850, inclusive.						Entered the Service 1851 to 1858, inclusive.					
14																		
15																		
16																		
17							2	2										
18	33	33					14	16					2	2				
19	50	83	2				67	83	1				58	60	1			
20	25	106	1		1		65	147	4				74	133	1			12
21	12	116	1		...		34	177	1				43	163	3			15
22	6	121	5		...		28	204	1		1		27	172	2			25
23	1	117	...		1		6	208	...		...		13	158	...		1	32
24		116	1		..			208	4		1		7	132	6		1	35
25		115	1		1			203	3		1		...	90	6			17
26		113	5		1			199	...		2		1	68	1			31
27		107	1		2			197	2		...	1		36	1			14
28		104	1		1			194	1		1	2		21	1		1	13
29		102	2		...			190	4		2	18		6				4
30		100	3		...			166	2		...	13		2				2
31		97	...		...			151	1		3	23						
32		97	...		...			124	3		2	20						
33		97	1		...			99	1		1	21						
34		96	...		...			76	2			20						
35		96	2		1			54	2			20						
36		93	1		...	1		32	1	1		14						
37		91	3		...	4		16				13						

Table No. 1.—(*Continued.*)

Observations of Mortality amongst the Members of the Bengal Civil Service who entered in the successive decennial periods from 1801 *to* 1858 *inclusive.*

	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	Entered the Service 1831 to 1840, inclusive.						Entered the Service 1841 to 1850, inclusive.						Entered the Service 1851 to 1858, inclusive.					
				Withdrawn.						Withdrawn.						Withdrawn.		
Age.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.
38		84	2			9		3				3						
39		73	3	1		7												
40		62	2			7												
41		53	1			7												
42		45	2			6												
43		37	...	2	1	9												
44		25	1			7												
45		17				8												
46		9				7												
47		2				2												
	127	2407	41	3	9	74	216	2749	33	1	14	168	225	1043	22	...	3	200

Table No. 2.

Observations of Mortality amongst the Members of the Bengal Civil Service who entered in the two periods, 1801 *to* 1830, *and* 1831 *to* 1858 *inclusive, and in the whole period,* 1801 *to* 1858 *inclusive.*

	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	1801 to 1830.						1831 to 1858.						Total 1801 to 1858.					
				Withdrawn.						Withdrawn.						Withdrawn.		
Age.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Annuitants.	Other causes.	In the Service 30th April 1859.
14	1	1											1	1				
15	9	10											9	10				
16	26	36											26	36				
17	67	103	2		1		2	2					69	105	2		1	
18	232	332	5		2		49	51					281	383	5		2	
19	199	524	9		...		175	226	4				374	750	13		...	
20	77	592	16		2		164	386	6		1	12	241	978	22		3	12
21	23	597	5		3		89	456	5		...	15	112	1053	10		3	15
22	13	602	13		2		61	497	8		1	25	74	1099	21		3	25

Table No. 2.—(*Continued.*)

Observations of Mortality amongst the Members of the Bengal Civil Service who entered in the two periods, 1801 *to* 1830, *and* 1831 *to* 1858 *inclusive, and in the whole period,* 1801 *to* 1858 *inclusive.*

	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	1801 to 1830.						1831 to 1858.						Total 1801 to 1858.					
Age.	Entered.	Lived.	Died.	Withdrawn. Annuitants.	Withdrawn. Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Withdrawn. Annuitants.	Withdrawn. Other causes.	In the Service 30th April 1859.	Entered.	Lived.	Died.	Withdrawn. Annuitants.	Withdrawn. Other causes.	In the Service 30th April 1859.
23		587	8		2		20	483	...		2	32	20	1070	8		4	32
24		577	9		3		7	456	11		2	35	7	1033	20		5	35
25		565	15		8		..	408	10		2	17	...	973	25		5	17
26		547	10		1		1	380	6		3	31	1	927	16		4	31
27		536	14		2			340	4		2	15		876	18		4	15
28		520	11		5			319	3		3	15		839	14		8	15
29		504	8		4			298	6		2	22		802	14		6	22
30		492	6		...			268	5		...	15		760	11		...	15
31		486	6		1			248	1		3	23		734	7		4	23
32		479	6		3			221	3		2	20		700	9		5	20
33		470	7	1	4			196	2		1	21		666	9	1	5	21
34		458	12	...	...			172	2		...	20		630	14	...	...	20
35		446	10	1	2			150	4		1	20		596	14	1	3	20
36		433	5	...	2			125	2	1	...	15		558	7	1	2	15
37		426	5	1	3			107	3	...	...	17		533	8	1	3	17
38		417	12	1	2			87	2	...	...	12		504	14	1	2	12
39		402	10	...	1			73	3	1	...	7		475	13	1	1	7
40		391	9	2	...			62	2	...	...	7		453	11	2	...	7
41		380	7	2	2			53	1	...	...	7		433	8	2	2	7
42		369	3	3	3			45	2	...	...	6		414	5	3	3	6
43		360	11	14	8			37	...	2	1	9		397	11	16	4	9
44		332	6	39	1			25	1			7		357	7	39	1	7
45		286	8	27	1			17				8		303	8	27	1	8
46		250	7	28	...	9		9				7		259	7	28	...	16
47		206	1	21	1	12		2				2		208	1	21	1	14
48		171	3	22	...	11								171	3	22	...	11
49		135	2	14	...	7								135	2	14	...	7
50		112	5	8	...	8								112	5	8	...	8
51		91	4	14	...	4								91	4	14	...	4
52		69	1	11	..	5								69	1	11	...	5
53		52	1	8	1	1								52	1	8	1	1
54		41	3	1		2								41	3	1		2
55		35	.	4		3								35	...	4		3
56		28	2	5		1								28	2	5		1
57		20	...	1		1								20	...	1		1
58		18	1	...		1								18	1	...		1
59		16	1	2		...								16	1	2		...
60		13	1	2		1								13	1	2		1
61		9	2	3										9	2	3		
62		4	1	2										4	1	2		
63		1		...										1		...		
64		1		...										1		...		
65		1		...										1		...		
66		1		1										1		1		
	647	14534	283	238	60	66	568	6199	96	4	26	442	1215	20733	379	242	86	508

Table No. 3.

Observations of Mortality amongst Retired Annuitants of the Bengal Civil Service who had entered the Service from 1801 *to* 1858 *inclusive.*

	1	2	3	4
Age.	Entered as Annuitants.	Lived.	Died.	Living 30th April 1859.
33	1	1		
34	...	1		
35	1	2		
36	1	3		
37	1	4	1	1
38	1	3		
39	1	4		
40	2	6		
41	3	9		
42	4	13		
43	18	31	1	
44	37	67		1
45	32	98		1
46	27	124	4	2
47	22	140		4
48	26	162	1	10
49	19	170	2	12
50	10	166	2	11
51	14	167	2	11
52	16	170	5	10
53	11	166	1	5
54	2	162	4	8
55	6	156	2	3
56	9	160	4	9
57	2	149	5	5
58	2	141	1	6
59	4	138	6	10
60	2	124	3	3
61	4	122	3	6
62	3	116	6	2
63	...	108	4	6
64	...	98	4	8
65	1	87	4	5
66	1	79	4	9
67	...	66	2	4
68	...	60	4	3
69	1	54	6	8
70	2	42	1	3
71	...	38	3	3
72	...	32	3	7
73	1	23		2
74		21		3
75		18	2	3
76		13		...
77		13	5	3
78		5		2
79		3	2	1
	287	3535	99	188

Table No. 2.

Bengal Civil Service.—Summary in Quinquennial periods of age.

	1	2	3	4	5	6	1	2	3	4	5	6
	1801 to 1830.						1838 to 1858.					
Age.	Entered.	Lived.	Died.	Retired.	Withdrawn.	Living to 1859.	Entered.	Lived.	Died.	Retired.	Withdrawn.	Living to 1859.
14	534	1006	16		3		226	279	4			
20	113	2955	51		12		341	2278	30		6	119
25		2672	58		15		1	1745	29		12	100
30		2385	37	1	8			1105	13		6	99
35		2124	42	3	10			542	14	2	1	71
40		1832	36	60	9			222	6	2	1	36
45		1048	21	112	2	39		28				17
50		365	14	42	1	20						
55		117	4	12		6						
60		28	4	7		1						
65-66		2		1								
Total	647	14534	283	238	60	66	568	6199	96	4	26	442

	1	2	3	4	5	6
	1801 to 1858.					
Age.	Entered.	Lived.	Died.	Retired.	Withdrawn.	Living to 1859.
14	760	1285	20		3	
20	454	5233	81		18	119
25	1	4417	87		27	100
30		3490	50	1	14	99
35		2666	56	5	11	71
40		2054	42	62	10	36
45		1076	21	112	2	56
50		365	14	42	1	20
55		117	4	12		6
60		28	4	7		1
65-66		2		1		
Total	1215	20733	379	242	86	508

Table No. 3.

Bengal Civil Service Retired Annuitants, Summary in Quinquennial periods of age.

	1	2	3	4	5	6
	1801 TO 1858.					
Ages.	Entered.	Lived.	Died.	Living to 1859.	Exposed to Risk.	Rate of Mortality per cent.
33	1	2			1·5	
35	5	16	1	1	12·5	8·00
40	64	126	1	1	93	1·08
45	126	694	7	29	613	1·14
50	53	831	14	45	775	1·81
55	23	744	18	33	707	2·55
60	9	568	20	25	541	3 70
65	3	346	20	29	320	6·25
70	3	156	9	16	142	6·34
75-80		52	9	9	43	20·93
Total...	287	3535	99	188	3248	3·05

Table No. 2.

Rates per cent. of Mortality Retirement and Withdrawal whilst on A.

	1	2	3	4		
	1801 TO 1858.					
	RATES PER CENT.					
Ages.	Exposed to Risk.	Died.	Retired.	Withdrawn.		Farr's healthy life (graduated) rate of mortality per cent.
14	893·5	2·24		·34		·53
20	4897·0	1·65		·37		·74
25	4309·5	2·02		·63		·80
30	3408·0	1.47	·039	·41		·84
35	2594·5	2·16	·19	·42		·89
40	1979·0	2·12	3·13	·51		·99
45	980·5	2 14	11·42	·20		1·16
50	326·5	4·29	12·86	·31		1·44
55	106 0	3·77	11·32			1·85
60	22·0	18·18	31·82			2 89
65-66	1·5		66·67			
...	19518·0	1·94	1·24	·44		

	1	2	3			
	TABLES NOS. 2 AND 3, 1801 TO 1858, INCLUDING ACTIVE AND RETIRED.					
Ages.	Exposed to Risk.	Died.	Rate of Mortality per cent.			
14	893·5	20	2·24			
20	4897·0	81	1·65			
25	4309·5	87	2·02			
30	3409·5	50	1·47			
35	2607·0	57	2·19			
40	2072·0	43	2·08			
45	1593·5	28	1·76			
50	1101 5	28	2·54			
55	813·0	22	2 71			
60	563·0	24	4 26			
65	321·5	20	6·22			
70	142·0	9	6·34			
75-80	43·0	9	20·93			
Total . .	22766·0	478	2·10			

	1	2	3	1	2	3
	TABLE NO. 2, 1801 TO 1830.			1831 TO 1858.		
Ages.	Exposed to Risk.	Died.	Rate of Mortality per cent.	Exposed to Risk.	Died.	Rate of Mortality per cent.
14	729·5	16	2·19	164 0	4	2·44
20	2867·0	51	1·78	2030·0	30	1·48
25	2635·5	58	2 20	1674·0	29	1 73
30	2362·0	37	1·57	1046·0	13	1·24
35	2096·5	42	2·00	498·0	14	2·81
40	1779·5	36	2·02	199·5	6	3·01
45	961 0	21	2·19	19 5	...	
50	326·5	14	4·29			
55	106·0	4	3·77			
60	22·0	4	18 18			
65	1·5	...				
70						
75-80						
Total	13887·0	283	2·04	5631·0	96	1·70

Table No. 4.

Bengal Civil Service showing the Deaths, Resignations, and Retirements in each year of Service for the 52 *years,* 1790 *to* 1841 *inclusive.*

	1	2	3	4
Years of service.	Aggregate of Risk, period in India.	Deaths.	Resignations.	Retirements on annuity.
0	231	8	2	
1	954	19	1	
2	1014	25	4	
3	976	18	9	
4	935	19	5	
5	904	12	12	
6	871	11	5	
7	838	19	5	
8	803	20	5	
9	762	25	6	
10	736	9	2	
11	713	5	6	
12	678	13	...	
13	646	12	4	
14	593	7	8	
15	547	11	6	
16	494	7	5	
17	463	19	3	
18	431	12	5	1
19	403	12	4	...
20	381	10	4	1
21	351	10	11	...
22	323	9	5	...
23	298	10	6	...
24	275	9	5	...
25	249	6	5	9
26	212	8	2	16
27	181	9	2	14
28	158	6	...	12
29	144	4	...	4
30	124	2	3	8
31	108	5	2	11
32	92	2	1	5
33	77	4	0	7
34	63	7	1	4
35	52	5	...	4
36	44	2	...	5
37	37	2	...	3
38	27	1	...	5
39	23	...	...	2
40	21	...	1	1
41	17	1	...	5
42	14	...	1	...
43	11	1		1
44	9	...		1
45	6	1		
46	6	1		
47	2			
48	2			
49	2			
50	2			
51	2			
Total	17305	398	146	119

Table No. 4.

Summary in Quinquennial periods of service and Rates per cent.

	1	2	3	4	5	6	7	8	9
Years of service.	Years of Risk.	Died.	Resigned.	Retired.	Total.	RATES PER CENT.			
						Died.	Resigned.	Retired.	Total.
0	4110	89	21		110	2·16	·51		2·67
5	4178	87	33		120	2·08	·79		2·87
10	3366	46	20		66	1·37	·59		1·96
15	2338	61	23	1	85	2·61	·98	·04	3·63
20	1628	48	31	1	80	2·95	1·90	·06	4·91
25	944	33	9	55	97	3·49	·95	5·82	10·26
30	464	20	7	35	62	4·31	1·51	7·54	13·36
35	183	10	...	19	29	5·46	...	10·38	15·84
40	72	2	2	8	12	2·78	2·78	11·12	16·68
45	18	2	...		2	11·11			11·11
50-52	4	...	...						
Total	17305	398	146	119	663	2·30	·84	·69	3·83

Table No. 5.

Bengal Civil Fund.

Pensioners.—Observations of Mortality and Marriage in the 13 *years* 1850 *to* 1862 *inclusive, amongst Widows who were either living* 1*st January* 1850, *or became Widows since that date.*

	1	2	3	4	5	6	1	2	3	4	5	6
	Widows living 1st January 1850.						Became Widows 1st January 1850 to 1863.					
Age.	Living 1st Jan. 1850.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.	Entered.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.
20							1	1				
21							...	1				
22							2	3				1
23	1	1					3	5				...
24	1	2					4	9		1		2
25	2	4					1	7		1		...
26	...	...					2	8		1		2
27	1	5					2	7				...
28	1	6					2	9				2
29	...	6					2	9				1
30	5	11		1			1	9				1
31	1	11	1				4	12				2
32	2	12		1			1	11				...
33	2	13					...	11				3
34	1	14					3	11		1		...
35	...	14					3	13				3
36	1	15				1	4	14				1
37	...	14				1	1	14				1
38	2	15		1		1	3	16	1			1
39	3	16				...	...	14				...
40	2	18				1	2	16				2
41	1	18				...	2	16				6
42	...	18				...	1	11				2
43	2	20	1			4	...	9				4
44	1	16				...	2	7				2
45	3	19				2	...	5				1
46	3	20				2	..	4				1
47	5	23				1	1	4				1
48	3	25			1	...	2	5				...
49	3	27				1	2	7				2
50	5	31				...	2	7	1			1
51	3	34				1	...	5				1
52	4	37		1	1	3	...	4				...

Table No. 5.—(*Continued.*)

Bengal Civil Fund.

Pensioners.—Observations of Mortality and Marriage in the 13 *years* 1850 *to* 1862 *inclusive, amongst Widows who were either living* 1*st January* 1850 *or became Widows since that date.*

	1	2	3	4	5	6	1	2	3	4	5	6
	Widows living 1st January 1850.						Became Widows 1st January 1850 to 1863.					
Age.	Living 1st Jan. 1850.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.	Entered.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.
53	...	32	2			2	2	6				...
54	2	30				...	1	7				1
55	2	32	1			...	2	8	1			1
56	3	34				1	2	8				2
57	...	33				1	...	6				...
58	1	33				2	1	7				2
59	4	35				3		5				1
60	2	34	1			4		4				...
61	2	31			1	2		4				1
62	1	29				3		3				2
63		26	1			3		1				1
64		22	2			3		...				
65		17	1			4	1	1				
66		12	1			..	...	1				
67		12				2	1	2				
68		10	1			...		2				
69		10				3		2				
70		7				...		2				
71		7				1		2				
72		6				1		2				1
73	1	6				2		1				1
74		4				1						
75		3	1									
76		2										
77		2										
78		2										
79	1	3										
80		3										
81		3										
82		3				1						
83		2										
84		2	1									
85		1										
86		1	1									
Total ...	79	954	15	4	3	57	63	358	3	4		56

Table No. 6.

Bengal Civil Fund.

Pensioners.—Observations of Mortality in the 13 *years* 1850 *to* 1862 *inclusive, amongst Male Children who were living as Pensioners,* 1*st January* 1850, *or admitted since.*

	1	2	3	4	5	6	1	2	3	4	5	6
	Living 1st January 1850.						Admitted since 1st January 1850.					
Age.	Entered.	Lived.	Died.	Attained 21.	Withdrew.	Living 1st Jan. 1863.	Entered.	Lived.	Died.	Attained 21.	Withdrew.	Living 1st Jan. 1863.
0							12	12				...
1							2	14				3
2	1	1					5	16				...
3	2	3					4	20				4
4	2	5					5	21				4
5	1	6					3	20				4
6	1	7					2	18				4
7	1	8					7	21				3
8	6	14					3	21	1			2
9	5	19					3	21				4
10	6	25					3	20				5
11	3	28			1		6	21				4
12	4	31			...		3	20				4
13	7	38			1		9	25	1			5
14	3	40			...		1	20	1			...
15	3	43			2	1	...	19				4
16	3	43			1	2	8	23			2	3
17	10	50			6	1	2	20			3	4
18	1	44	1		5	1	3	16			1	2
19	3	40			8		1	14			3	3
20	1	33		26	7		1	9		4	1	4
Total	63	478	1	26	31	5	83	391	3	4	10	66
	Table No. 6. *Summary in Quinquennial periods of age.*											
0	5	9					28	83				11
5	14	54					18	101	1			17
10	23	162			2		22	106	2			18
15	20	220	1		22	5	14	92			9	16
20-21	1	33		26	7		1	9		4	1	4
Total	63	478	1	26	31	5	83	391	3	4	10	66

Table No. 7.

Bengal Civil Fund.

Pensioners.—Observations of Mortality and Marriage in the 13 *years* 1850 *to* 1862, *and amongst Female Children who were living as Pensioners* 1*st January* 1850 *or admitted since.*

	1	2	3	4	5	6	1	2	3	4	5	6
	Living 1st Jan. 1850.						Admitted since 1st Jan. 1850.					
Age.	Entered.	Lived.	Died.	Married.	With-drew.	Living 1st Jan. 1863.	Entered.	Lived.	Died.	Married.	With-drew.	Living 1st Jan. 1863.
0	...	...					7	7				...
1	1	1					8	10	1			1
2	3	4					8	11	1			2
3	...	4					4	12				3
4	1	5					5	14				2
5	5	10					3	15				1
6	...	10					6	20				1
7	3	13					3	22				2
8	...	13					3	23				5
9	3	16					4	22				2
10	5	21					3	23				2
11	3	24	1				2	23				3
12	1	24					6	26				...
13	3	27					5	31				5
14	1	28			1	1	6	32				3
15	6	32				3	5	34	1			4
16	...	29				...	4	33				4
17	8	37				1	4	33				3
18	3	39		3	1	4	6	36				3
19	9	40		2		...	3	36		2		3
20	4	42		4		2	...	31	Killed 1	4		7
21	3	39		3		...	1	20		2		1
22	3	39		3		3	...	17		2		5
23	1	34	1	3	1	3	1	11		1		1
24	...	26		...		2	1	10				1
25	3	27		2		1	...	9		3		...
26	2	26		...	2	1	1	7				3
27	4	27		1		...	1	5	1			...
28	2	28		...		3	...	4				...
29	5	30		1	1	...	1	5				2
30	...	28		...		2		3				...
31	...	26		1		2		3				...
32	1	24	1	...		4		3		1		...
33	1	20		1		1		2				1
34	2	20			2	4		1				...
35	1	15				1		1				...
36		14				1		1				1
37		13			1	...						
38		12				2						
39		10	1			1						
40		8				3						
41		5				...						
42		5				3						
43		2										
44		2										
45		2										

Table No. 7.—(*Continued*)

Bengal Civil Fund.

Pensioners.—Observations of Mortality and Marriage in the 13 *years* 1850 *to* 1862, *and amongst Female Children who were living as Pensioners* 1*st January* 1850 *or admitted since.*

	1	2	3	4	5	6	1	2	3	4	5	6
	Living 1st Jan. 1850.						Admitted Since 1st Jan. 1850.					
Age.	Entered.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.	Entered.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.
46		2				...						
47		2				1						
48		1				1						
49		...										
50		...										
51		...										
52	1	1										
53		1										
54		1										
55		1										
56		1										
57		1										
58		1										
59		1	1									
60												
Total ...	88	913	5	24	9	50	91	596	5	15	...	71
	Summary in Quinquennial periods of age.											
0	5	14					22	54	2			8
5	11	62					19	102				11
10	13	124	1		1	1	22	135				13
15	26	177	...	5	1	8	22	172	1	2		17
20	11	180	1	13	1	10	3	89	1	9		15
25	16	138	...	4	3	5	3	30	1	3		5
30	4	118	1	2	2	13		12		1		1
35	1	64	1		1	5		2				1
40	...	22	...			6						
45	...	7	...			2						
50	1	3	...									
55	...	4	1									
Total ...	88	913	5	24	9	50	91	596	5	15	...	71

Table No. 5.

Bengal Civil Fund.

Pensioners' Widows.—Summary in Quinquennial periods of age, and Rates per cent. of Mortality, Marriage and Withdrawal.

		1	2	3	4	5	6	7	8	9	10
								On 100 living in the middle of the year.			
Age.	Living 1st Jan. 1850.	Admitted 1st Jan. 1850 to 1863.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.	Exposed to Risk.	Died.	Married.	Withdrew.
20	2	10	22	...	1		3	14·		7·14	
25	4	9	61	...	2		5	51·		3·92	
30	11	9	115	1	3		6	100	1·00	3 00	
35	6	11	145	1	1		9	131·	·76	·76	
40	6	7	149	1	...		21	131·5	·76	...	
45	17	5	139	...	...	1	11	122·	...	...	·82
50	14	5	193	3	1	1	9	176·5	1·70	·57	·57
55	10	5	201	2		...	13	186·	·54		...
60	5	...	154	4		1	19	139·5	2·87		·72
65	2	2	69	3			9	61·0	4·92		
70	1		37	...			7	33·	...		
75	1		12	1			...	11·	9·09		
80			13	1			1	12	8·33		
85-86			2	1			...	1·5	66·67		
Total	79	63	1312	18	8	3	113	1170·	1·54	·68	·26

Summary in Decennial periods of Age, and Rate per Cent. of Mortality, Marriage, and Withdrawal.

	1	2	3	4	5	6	7	8
					Rates per Cent.			
Age.	Exposed to Risk.	Died.	Married.	Withdrew.	Died.	Married.	Withdrew.	Farr's Healthy Life Table Females, Rates of mortality per cent.
20	14·0	...			...	7·14		...
25	151·0	1			·66	3·31		·89
35	252·5	2	1		·76	·38		1·00
45	298·5	3	5	2	1·01	·34	·67	1·19
55	325·5	6	1	1	1·84		·31	2 16
65	94·0	3	1	...	3·19			4·99
75 to 86	24·5	3	...	...	12·24			11·87
Total	1170·	18	8	3	1·54	·68	·26	

Table No. 6.

Summary in Quinquennial periods of age, and Rates per cent. of Mortality, and Withdrawal.

	1		2	3	4	5	6	7	8	9	10
	Entered.								Rates per Cent.		
	Living 1st Jan. 1850	Admitted since.	Lived.	Died.	Attained 21.	Withdrew.	Living 1st Jan. 1863.	Exposed to Risk.	Died.	Withdrew.	Farr's Healthy Life, Mortality per cent.
0	5	28	92	...			11	70·	...		4·35
5	14	18	155	1			17	130·	·77		·67
10	23	22	268	2		2	18	234·5	·85	·85	·38
15	20	14	312	1		31	21	268·5	·37	11·54	·69
20-21	1	1	42	...	30	8	4	35·	...	22·86	
								Attained 21		85·71	
Total	63	83	869	4	30	41	71	738·	·54	5·56	

Table No. 7.

Summary in Quinquennial periods of age, and Rates per cent. of Mortality, Marriage, and Withdrawal.

	1		2	3	4	5	6	7	8	9	10	11
	Entered.								Rates per Cent.			
	Living 1st Jan. 1850.	Admitted since.	Lived.	Died.	Married.	Withdrew.	Living 1st Jan. 1863.	Exposed to Risk.	Died.	Married.	Withdrew.	Farr's Healthy Life, Mortality per cent.
0	5	22	68	2	...	...	8	49·5	4·04			3·72
5	11	19	164	...	...	...	11	143·5	..			·70
10	13	22	259	1	...	1	14	233·5	·43		·43	·48
15	26	22	349	1	7	1	25	308·	·32	2·27	·32	
20	11	3	269	2	22	1	25	237·	·84	9·28	·42	
25	16	3	168	1	7	3	10	148·	·68	4·73	2·03	
30	4		130	1	3	2	14	118·	·85	2·54	1·69	
35	1		66	1	...	1	6	61·5	1·63		1·63	
40	...		22	...	...	...	6	19·	...			
45	...		7	...	...	...	2	6·	...			
50	1		3	...	...	...	...	2·5	...			
55	...		4	1	...	...	...	3·5	28·51			
Total	88	91	1509	10	39	9	121	1330·0	·75	2·93	·68	

Table No. 8.

Bengal Civil Fund.

Observations of Mortality, Marriage, Withdrawal, and Retirement in the 13 *years* 1850 *to* 1862 *inclusive, amongst Members who were living on the* 1*st January* 1850, *or who entered since that date.*

Bachelors (Active.)

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
	Amongst those who were living 1st January 1850.								Amongst those who entered since 1st January 1850.							
Age.	Living 1st Jan. 1850.	Lived.	Killed.	Died.	With-drawn.	Married.	Retired.	Living 1st Jan. 1850.	Entered since.	Lived.	Killed.	Died.	With-drawn.	Married.	Retired.	Living 1st Jan. 1863.
19									25	25						1
20	12	12							81	105		2		2		3
21	11	23							119	217	1	...		10		17
22	26	49		1		1			77	266	...	2		16		29
23	23	70			1	9			46	265	2	1	2	22		27
24	17	77				4			34	245	2	2	2	23		30
25	19	92		2		4			4	190	2	4	...	15		13
26	13	99		2		11				156	1	1	1	10		26
27	8	94			1	7				117	4	...	2	13		28
28	8	94		2	1	6				70		2	4	7		12
29	7	92		1	1	3				45		...	2	8		9
30	4	91			1	13				26		1		5		10
31	2	79	1		2	11				10				1		2
32	4	69				5				7				...		3
33	1	65				8		2		4				1		2
34	0	55		1		7		2		1						...
35	4	49		1		5		6		1						1
36	4	41				1	1	4								
37	2	37				2		3								
38	4	36				3		1								
39	11	43				3		4								
40	8	44				1	3	2								
41	7	45		1		2		2								
42	2	42		1	1	...		2								
43	3	41				...	2	1								
44	2	40				2	4	1								
45	2	35		1		...	9									
46	1	26		1		...	4									
47	3	24			1	1	3									
48	1	20				1	5									
49		14				1	3	1								
50		9				1	2									
51		6				...	2									

Table No. 8.—(*Continued.*)

Bengal Civil Fund.

Observations of Mortality, Marriage, Withdrawal, and Retirement in the 13 *years* 1850 *to* 1862 *inclusive, amongst Members who were living on the* 1*st January* 1850, *or who entered since that date.*

Bachelors Active.

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
	Amongst those who were living 1st January 1850.								Amongst those who entered since 1st January 1850.							
Age.	Living 1st Jan. 1850.	Lived.	Killed.	Died.	With-drawn.	Married.	Retired.	Living 1st Jan. 1850.	Entered since.	Lived.	Killed.	Died.	With-drawn.	Married.	Retired.	Living 1st Jan. 1863.
52	2	6														
53		6			1		1									
54		4	1	1												
55		2					1									
56	1	2														
57		2					1									
58		1														
59		1					1									
60		0														
61		0														
62		0														
63		0														
64		0														
65		0														
66		0														
67		0														
68		0														
69		0														
70		0														
71	1	1														
72		1														
73		1														
74		1														
75		1														
76		1														
77		1														
78		1														
79		1		1												
Total	213	1646	2	16	10	12	42	31	386	1750	12	15	13	133		213

Table No. 8.—(*Continued.*)

Bachelors (Retired.)

	1	2	3	4	5	6
AMONGST MEMBERS WHO WERE LIVING 1ST JANUARY 1850.						
Age.	Retired.	Lived.	Died.	Withdrew.	Married.	Living 1st January 1863.
35						
36	1	1		1		
37						
38						
39						
40	3	3		2		
41		1				
42		1				
43	2	3			1	
44	4	6		2		
45	9	13		1	1	
46	4	15		5	1	
47	3	12		2		
48	5	15			1	
49	3	17	1	1		1
50	2	16				
51	2	18			1	2
52	...	15	1	1		3
53	1	11				6
54	...	5	1	1		1
55	1	3				
56	...	3				2
57	1	2				1
58	...	1			1	
59	1	1				
60		1				
61		1				
62		1				
63		1				
64		1				
65		1				
66		1	1			
67						
68						
69						
Total ...	42	169	4	16	6	16

Table No. 8.—(*Continued.*)

Married Members (*Active.*)

	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
	Amongst Members who were Living 1st Jany. 1850. (The small figures indicate those who have re-married.)										Amongst Members who entered since.									
	Living 1st Jan. 1850.																			
Age.	With 1st wife.	With 2nd wife.	Widowers since re-married.	Lived.	Killed.	Died.	Withdrew.	Became widowers.	Retired.	Living 1st Jan. 1863.	Bachelors married.	Entered Fund as married.	Widowers married.	Lived.	Killed.	Died.	Withdrew.	Became widowers.	Retired.	Living 1st Jan. 1863
20	...										2	1		3						
21	...										10			13						2
22	2			2							17	1		29				1		4
23	4			6							31	1		56						3
24	3			9							27	3		83			1	2		10
25	12			21		1					19			89	1	1		3		15
26	5			25							21		2^2	92	1		1	4		12
27	9			34							20		1^2	95				1		10
28	12			46							13		1^2	98	1	1		$1^2 1$		$1^2 12$
29	8	2^2		51				1			11		$1^3 1^2$	94		1		2		1^2 6
30	6			56		1					18			102		1^2		1		$1^3 15$
31	4			59							12		2^2	98	2	1^2		1		9
32	7			66			1	1			5			90	2	2		1		6
33	7	1^2	1^2	73		1	1				9		1^2	89				2		14
34	6	1^2		78		1^2		1			7			80		1				$1^2 9$
35	5			81	1	1	1	$1^2 2$			5		2^2	76	1	2		1		21
36	10	1^2		86		1		1		3	1			52	1		1	2	1	$2^2 8$
37	14	2^2	2^2	99		4		3	1	2	2			39						8
38	15	1^2		105						8	3		2^2	36		1		2		$1^2 8$
39	6	2^2		105	1	1		2	1	2	3		2^2	29						$1^2 6$
40	12		2^2	112		1		2		$1^2 7$	1		1^2	24	1					4
41	13	2^2	1^2	117						8	2			21						4
42	15			124		1^2 1				$1^2 1$				17						5
43	7	2^2		129			1		1	$1^2 4$			1^2	13		1				$1^2 1$
44	10	2^2	1^2	135	1			2	3	3	2			12						
45	3			129		1^2 1	1^2	1	$1^2 10$	3				12		1^2		1		2
46	3			114	1	1^2		2	7	$1^2 3$			1^2	9		1^2		1^2	1^2	
47	5	2^2		106	1	1^2 2	1		$1^2 8$	$1^2 2$	1			7						
48	3			92		2			$2^2 14$	1	1			8						1
49	3		1^2	77		2			$1^2 15$	$1^2 1$	1			8						1
50	2	1^2		60		1		1	$1^2 8$	4	1			8					1^2	2
51	3			48		3			1 3	$1^2 4$				5					$1^2 1$	1
52	1		1^2	38					$1^2 8$	$2^2 1$				2						
53	...	1^2		27					2	2				2						
54	1			24					$1^2 2$	$1^2 1$				2		1				1
55	2			21					3	2			1^2	1						
56	...			16		1			5	2^2				1						
57	...			8		1			3					1						
58	2			6										1						
59	1			7										1						
60	1			8					1^2					1						
61	1			8					3					1					1^2	
62				5																
63				5					4											
64				1																
65				1																
66				1					1											
67				0																
68	1			1																
69	1			2																
70				2					1											
71				1					1											
72																				
73																				
74																				
Total	220	20	9	2427	5	25 / 5^2	5 / 1^2	19 / 1^2	104 / 10^2	62 / 12^2	245	6	$1^3 18^2$	1500	10	11 / 4^2	3	25 / 2^2	2 / 4^2	200 / 8^2 / 1^3

Table No. 8.—*(Continued.)*

Married Members Retired.

	1	2	3	4	5	6	7
	Amongst Members who were living either as Bachelors or Married Members on 1st January 1850.						
Age.	Retired as married.	Married after Retirement.	Lived.	Died.	Withdrew.	Became widowers.	Living 1st January 1863.
35							
36	1		1				
37	1		2				
38			2				1
39	1		2				
40			2				
41			2				2
42			0				
43	1	1	2				
44	3		5				
45	1²10	1	17				1
46	1² 7	1²1	26		1		
47	1² 8		34	1			1²2
48	2²14	1²1	48		1		1²2
49	1²15		60		1		1²1
50	2² 8		67		1	1	2²7
51	2² 4	1	63	1		1	3²9
52	1² 8	1²	59	1²1			1²4
53	2		54	1			11
54	1² 2	1²	46	2			1²8
55	3		38		1		10
56	5		32			2	1²3
57	3		29	1			1²6
58		1	22	1			1
59			20				3
60	1² 0		18	1			2²5
61	1² 3		14				3
62			11	1		1²0	1
63	4		12				2²1
64			9			1	2
65			6				

	1	2	3	4	5	6	7
	Amongst Members who were living either as Bachelors or Married Members on 1st January 1850.						
Age.	Retired as married.	Married after Retirement.	Lived.	Died.	Withdrew.	Became widowers.	Living 1st January 1863.
66	1		7				
67			7	1			1
68			5				2
69			3	1			
70	1		3				
71	1		4				1
72			3				1
73			2				
74			2				
75			2				
76			2				
77			2				
78			2				
79			2	1			
80			1	1			
Total	14²106	4²6	750	1²14	5	1²5	16²88

Table No. 8.—(*Continued*)

WIDOWERS (ACTIVE.)

Age.	1	2	3	4	5	6	7	8	9
	Amongst Members who were living 1st January 1850 either then Widowers or who have become Widowers since.								
	Entered List.	Entered 2nd time.	Lived.	Killed.	Died.	Withdrawn.	Re-married.	Retired.	Living 1st Jan. 1863.
25									
26	2		2						
27	1		3						
28	1		4						
29	1		5						
30	0		5						
31	1		6				2		
32	2		6						
33	2		8		1		2		1
34	3		7						
35	4	1[2]	12				2		
36	3		13		1				1
37	4		15	1			2		1
38	7		18				2		1[2]2
39	4		17				2		1
40	2		16	1			3		
41	1		13				1		2
42	1		11		1				
43	0		10				1		
44	2		11				1		1
45	5		14		·1			3	
46	2	1[2]	13				1	1	
47	3		14						1
48	...		13					3	1
49	...		9				1	1	1
50	2		8						
51	..		8					2	
52	2		8						1
53	...		7					2	
54	1		6						
55			6				1		
56			5						
57			5					1	
58			4		1			1	1
59			1						
60			1		1				
Total	56	2[2]	304	2	6		21	14	1[2]14

Age.	1	2	3	4	5	6	7	8	9
	Amongst Members who entered since.								
	Entered List.	Entered 2nd time.	Lived.	Killed.	Died.	Withdrawn.	Re-married.	Retired.	Living 1st Jan. 1863.
20									
21									
22	1		1						
23			1						
24	2		3						1
25	3		5						
26	2		7				2		2
27			3				1		
28		1[2]	3				1		
29	2		4				1[2]1		2
30	1		1						
31			1		1				
32	1		1						
33			1						1
34									
Total	12	1[2]	31		1		1[2]5		6

Table No. 8.—(*Continued.*)

WIDOWERS RETIRED.

	1	2	3	4	5	6	7
	AMONGST MEMBERS WHO WERE LIVING 1ST JANUARY 1850.						
Age.	Widowers who retired.	Retired who became Widowers.	Lived.	Died.	Withdrew.	Re-married.	Living 1st January 1863.
45	3		3		1		
46	1		3			1	
47			2				
48	3		5			1	
49	1		5				1
50		1	5				
51	2	1	8				
52			8			2	1
53	2		7				
54			7			1	1
55			5				2
56		2	5				
57	1		6				1
58	1		6				3
59			3				
60			3				2
61			1				
62		1[2]	2	1			
63			1				
64		1	2				
65			2				
66			2				1[2]
67			1				
68			1				
69			1				
70			1				
71			1				
72			1				
73			1				
74			1				1
Total ...	14	1[2]5	99	1	1	5	1[2]12

Table No. 8.—(*Continued.*)

Summary in Quinquennial periods of age, and Rates per cent. of Mortality, Marriage, Withdrawal, and Retirement.

	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6
	BACHELORS.															
	ACTIVE.										RETIRED.					
Age.	Living 1st January 1850.	Entered since.	Total.	Lived.	Killed.	Died.	Withdrew.	Married.	Retired.	Living 1st January 1863.	Entered.	Lived.	Died.	Withdrew.	Married.	Living 1st Jan. 1863.
19		25	25	25						1						
20	89	357	446	1,329	5	8	5	87		106						
25	55	4	59	1,049	7	14	12	84		88						
30	11		11	407	1	2	3	51		21						
35	25		25	207		1		14	1	19	1	1		1		
40	22		22	212		2	1	5	9	8	9	14		4	1	
45	7		7	119		2	1	3	24	1	24	72	1	9	3	1
50	2		2	31	1	1	1	1	5		5	65	2	2	1	12
55	1		1	8					3		3	10			1	3
60												5				
65												2	1			
70	1		1	4												
75				5		1										
80																
Total	213	386	599	3,396	14	31	23	245	42	244	42	169	4	16	6	16
					45											

	1	2	3	4	5	6	7	8	1	2	3	4	5
	RATES PER CENT.												
	ACTIVE.								RETIRED.				
Age.	Exposed to Risk.	Killed.	Died.	Both.	Withdrew.	Married.	Retired.	Total.	Exposed to Risk.	Died.	Withdrew.	Married.	Total.
19-20	1,066	·47	·75	1·22	·47	8·16		9·85					
25	961	·73	1·46	2·19	1·25	8·74		12·18					
30	373	·27	·54	·81	·80	13·67		15 28					
35	186·5		·54	·54		7·50	54	8·58					
40	192 5		1·04	1·04	·52	2·60	4·67	8·83	7·		57·16	14·29	71·45
45	100 5		1·99	1·99	1·00	2·99	23·68	29·86	53·5	1·87	16·82	5·61	24·30
50	25·5	3·92	3 92	7·84	3·92	3·92	19·60	35·28	60·	3·33	3·33	1·67	8·33
55	6						50·	50·	8·			12·50	12·50
60									5				
65									1·5	66·67			66·67
70	3·5												
75	4·5		22·22	22·22									
80													
Total...	2919·	·48	1·06	1 54	·79	8·39	1 44	12 16	13 5	2·96	11·85	4 44	19 25

Table No. 8.—(*Continued.*)

Summary in Quinquennial periods of age.

MARRIED MEMBERS.

	1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8
	Active List.													Retired List.							
	Living 1st Jan. 1850.		Since 1850.																		
Age.	Married to 2nd Wives.	Became Widowers and re-married.	Entered Fund as married.	Bachelors married.	Widowers married.	Total.	Lived.	Killed.	Died.	Withdrew.	Became Widowers.	Retired.	Living 1st Jan. 1863.	Married after retirement.	From Married List.	Total.	Lived.	Died.	Withdrew.	Became Widowers.	Living 1st Jan. 1863.
19																					
20		9	6	87		6 96	201			1	3		19								
25	2^2	41	*	84	5^2 1^3	7^2 1^3 125	645	3	4	1	12 1^2		$2^2$55								
30	2^2	30 1^2		51	3^2	$6^2$81	791	4	5 3^2	2	7		$1^3$53 1^2								
35	6^2	50 2^2		14	6^2	$14^2$64	708	4	10	2	13 1^2	3	$4^2$66		3	3	7				1
40	6^2	57 4^2		5	2^2	$12^2$62	704	2	3 1^2	1	4	4	$4^2$37	1	4	5	11				2
45	2^2	17 1^2		3	1^2	$4^2$20	562	2	7 5^2	1 1^2	4 1^2	54 6^2	$3^2$14	$2^2$3	$6^2$54	65	185	1	3		2^2 7
50	2^2	7 1^2		1		3^2 8	216		5		1	24 6^2	$4^2$16	$2^2$1	$6^2$24	33	289	$1^2$5	1	2	$2^2$14
55		5			1^2	1^2 5	63		2			11	2^2 2	1	11	12	141	2	1	2	$2^2$23
60		2				2	29					7 2^2			2^2 7	9	64	2		$1^2$1	$2^2$14
65						2	5					1			1	1	28	2			3
70		2					3					2			2	2	14				2
75																	10	1			
80																	1	1			
	20^2	220 9^2	6	245	18^2 1^3	$47^2$471 1^3	3927	15	36 9^2	8 1^2	44 3^2	106 14^2	262 20^2 1^3	$4^2$6	$14^2$106	180	750	$1^2$14	5	$1^2$5	$8^2$96
								60		9	47	120	283								

RATES PER CENT.

	1	2	3	4	5	6	7	8	1	2	3	4	5
	Active.								Retired.				
Age.	Exposed to Risk.	Killed.	Died.	Both.	With-drew.	Became Widowers.	Retired.	Total.	Exposed to Risk.	Died.	With-drew.	Became Widowers.	Total.
19-20	148·				·67	2·03		2·70					
25	568·	·53	·70	1·23	·18	2·29		3·70					
30	737·	·55	1·08	1·68	·27	·95		2·85					
35	652·5	·61	1·53	2·14	·31	2·15	·46	5·06	5·5				
40	659 5	·30	·61	·91	·15	·61	·61	2·28	8·5				
45	509·5	·39	2·36	2·75	·39	·98	11·78	15·90	150·5	·66	1·99		2·65
50	192·5		2 60	2 60		·52	15·58	18·70	268	2·24	·37	·75	3·36
55	53·5		3·74	3·74			20·56	24·30	132·5	1·51	·75	1·51	3·77
60	23·5						38·30	38·30	57·5	3·48		3·48	6·96
65	3·5						28·57	28·57	26·5	7·55			7·55
70	2·0						100·		13·				
75									9·5	10·53			10·53
80									·5	200·			200·
Total	3549·5	·42	1·27	1·69	·25	1 33	3 38	6·65	672·	2 23	·74	·89	3·86

Table No. 8.—(*Continued.*)

Summary in Quinquennial periods of age, &c.,—Continued.

WIDOWERS.

	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7
	Active List.									Retired List.						
Age.	Living 1st Jan. 1850.	Entered since.	Lived.	Killed.	Died.	Withdrew.	Re-married.	Retired.	Living 1st Jan. 1863.	Retired, became Widowers.	Widowers retired.	Lived.	Died.	Withdrew.	Re-married.	Living 1st Jan. 1863.
19-20		3	5						1							
25		12 1[2]	36				1[2]5		4							
30	3	7	36		2		4		2							
35	9	13 1[2]	75	1	1		8		1·[2]5							
40	2	4	61	1	1		6		3							
45	6	4 1[2]	63		1		2	8	3		8	18		1	2	1
50	4	1	37					4	1	2	4	35			3	2
55			21		1		1	2	1	2	2	25				6
60			1		1					1 1[2]		9	1			2
65												7				1[2]
70												5				1
75																
80																
Total	24	44 3[2]	335	2	7		1[2]26	14	1[2]·20	5 1[2]	14	99	1	1	5	1[2].12
	71									20						

RATES PER CENT.

	1	2	3	4	5	6	7	8	1	2	3	4	5
	Active.								Retired.				
	Exposed to Risk.	Killed.	Died.	Both.	Withdrew.	Re-married.	Retired.	Total.	Exposed to Risk.	Died.	Withdrew.	Re-married.	Total.
19-20	3·5												
25	26 5					22·64		22·64					
30	28		7·14	7·14		14·28		21·42					
35	58·5	1·71	1·71	3·42		13·68		17·10					
40	54	1·85	1·85	3·70		11·11		14·81					
45	52		1·92	·92		3·85	15·38	21·15	12·5		8·00	16·00	24·00
50	32·5						12·08	12·08	30·5			9·84	9·84
55	19·		5·26	5·26		5·26	10 53	21·05	23·				
60	·5		200	200				200	7·5	13·33			13·33
65									7·				
70									5·				
75													
80													
Total	274·5	·73	2·55	3·28		9·84	5·10	18·22	85·5	1·17	1·17	5·85	8·19

Table No. 8.—(*Continued.*)

Bengal Civil Fund.

Summary in Quinquennial periods of age, total experience, and Rates per cent. of Mortality, Withdrawal, and Retirement amongst the Members, from the Observations of 13 *years,* 1*st January* 1850 *to* 1*st January* 1863.

	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	6	7	8	9	10
	Active.						Retired.				Combined Totals.					Rates per Cent.				
Age.	Exposed to Risk.	Killed.	Died.	Withdrew.	Retired.	Total.	Exposed to Risk.	Died.	Withdrew.	Total.	Exposed to Risk.	Killed.	Died.	Withdrew.	Total.	Killed.	Died.	Both.	Withdrew.	Total.
19	1217·5	5	8	6		19					1217·5	5	8	6	19	·41	·66	1·07	·49	1·56
25	1555·5	10	18	13		41					1555·5	10	18	13	41	·64	1·16	1·80	·84	2·64
30	1138	5	12	5		22					1138	5	12	5	22	·44	1·05	1 49	·44	1·93
35	897·5	5	12	2	4	23	5·5		1	1	903	5	12	3	20	·55	1·33	1·88	·33	2·21
40	906	3	7	2	13	25	15·5		4	4	921·5	3	7	6	16	·32	·76	1·08	·65	1·73
45	662	2	15	3	92	112	216·5	2	13	15	878·5	2	17	16	35	·23	1·93	2·16	1·82	3·98
50	250·5	1	6	1	39	47	358·5	8	3	11	609	1	14	4	19	·16	2·30	2·46	·66	3·12
55	78·5		3		16	19	163·5	2	1	3	242		5	1	6		2·07	2·07	·41	2·48
60	24		1		9	10	70	3		3	94		4		4		4·26	4·26		4·26
65	3·5				1	1	35	3		3	38·5		3		3		7·79	7·79		7·79
70	5·5				2	2	18				23·5									
75	4·5		1			1	9·5	1		1	14		2		2		14·29	14·29		14·29
80							·5	1		1	·5		1		1		200	200		200
	674·3	31	83	32	176	322	892·5	20	22	42	7635·5	31	103	54	188	·41	1·35	1·76	·71	2·47

	1	2	3	4	5	6	1	2	3
	Rates per Cent.								
	Active only.						Retired only.		
	Killed.	Died.	Both.	Withdrew.	Retired.	Total.	Died.	Withdrew.	Total.
19	·41	·66	1·07	·49		1·56			
25	·64	1·16	1·80	·84		2·64			
30	·44	1·05	1·49	·44		1·93			
35	·55	1·34	1·89	·22		2·56		18·18	18·18
40	·33	·77	1·10	·22	·45	2·96		25·81	25·81
45	·30	2·27	2·57	·45	1·44	16·92	·92	6·01	6·93
50	·40	2·39	2·79	·40	13·90	18·76	2·23	·84	3·07
55		3·82	3·82		15·57	24·20	1·22	·61	1·83
60		4·17	4·17		20·38	41·67	4·29		4·29
65					37·50	28·57	8·57		8·57
70					28·57	36·36			
75		22·22	22·22		33·36	22·22	10·53		10·53
80							20		20
	·46	1·23	1 69	·48	2·61	4·78	2 24	2·47	4·71

Table No. 9.

Bengal Civil Fund.

Observations of Mortality, Withdrawal, and Widowhood in the 13 years, 1850 to 1862 inclusive, amongst the Wives of Members who were either living on 1st January 1850 or we re-married since.

	1	2	3	4	5	6		7	8	1	2	3	4	5
	Active List.									Retired List.				
		Wives living 1st January 1850.												
Age.	Entered.	Lived.	Killed.	Died.	Withdrew.	Became Widows.	Husbands killed.	To Retired List.	Living 1st Jan. 1863.	Entered.	Lived.	Died.	Became Widows.	Living 1st Jan. 1863.
18	5	5												
19	3	8												
20	10	18		1									2	
21	9	26												
22	14	40					1							
23	11	50					1							
24	7	56						1		1	1		1	
25	8	63												
26	7	70			1			1		1	1			
27	15	83		1			1	2		2	3			
28	21	100		1	1		2	1		1	4			
29	10	105		1			1	1		1	5			
30	14	116		1				2		2	7			
31	13	126		1				4	2	4	11			
32	14	133		1			2	6	1	6	17			1
33	5	128		2	1	1	1	6	4	6	22	1		2
34	5	118		3	1		1	6	4	6	25			1
35	4	107			1		3	1	10	1	25			2
36	2	94	1		2		3		4		23	1		2
37	8	93		2				3	3	3	23			2
38	6	90		1		1	2	1	2	1	22			1
39	6	89		1				7	3	7	28		1	3
40	5	83		1				4	6	4	28		1	4
41	3	75		1	1			8	7	8	31		2	6
42	1	59					2	4	1	4	27			8
43	8	60				1	0	7	5	7	26			4
44	8	55			1	1	0	3	3	3	25			8
45	5	52					1	4	6	4	21			4
46	1	42						4	3	4	21			
47	1	36						6	1	6	27	1		4
48	3	32					1	5		6	28			3
49	3	28					2	2		2	26			6
50	1	25					2				26			3
51		23					1	1		1	21			3
52		19					1	2		2	20			2
53	2	17			1			2	1	2	18	1		2
54		13					1	3		3	18			2
55		9						3		3	19			1
56		6						2		2	20		2	4
57		4									14			7
58		4						1		1	8		1	2
59		3						2		2	7	1		1
60	1	2									5			
61		2						1		1	6			2
62		1									4		1	1
63		1		1							2			1
64											1			
65											1			
66											1			1
67														
68														
69														
Total	239	2369	1	19	11	4	29	107	68	107	668	5	11	91

Table No. 9.—(*Continued.*)

Wives married since 1st January 1850.

	1	2	3	4	5	6	7		8	1	2	3	4	5	6
	Active List.									Retired List.					
Age.	Entered Fund as married.	Married.	Lived.	Killed.	Died.	Withdrew.	Husbands killed.	Became Widows.	Living 1st Jan. 1863.	To Retired List.	Married after Retirement.	Lived.	Died.	Became Widows.	Living 1st Jan. 1863.
17		6	6						1						
18		18	23						2						
19	1	40	62		1		1		7		1	1			
20	1	28	82		1 2	1	1		4			1			
21		40	113		1		1	1	7			1		1	
22	1	35	139	1	1		1	1	13						
23	1	23	146		3			·1	16						
24	1	15	142		5		1	2	19	1		1		1	
25	3	14	131		1			·2	16		1	1			
26		5	117		3		3	1	16	1	2	4			
27		7	100	1	2			·1	8			4			1
28		7	95		2				22	1		4			1
29		5	75					·1 ·1	15	1		4			1
30		6	63		1			·1	15	1	1	5			1
31		1	46		1	1		·1	13			4			1
32		1	31						7		1	4			1
33		3	26		1				8	1	2	6			1
34			16						3			5			
35		2	15						5			5		1	1
36		1	11			1			2		1	4			1
37			8					·1	1			3	1		
38		3	9		1				3			2			
39			5						1			2			1
40			4						1			1			1
41			3					·1	1						
42		1	2							1		1			1
43			1												
44			1												
45			1												
46			1												
47			1												
48			1												
49			1							1		1			1
Total	8	261	1477	2	26	3	8	16	206	8	9	64	1	3	13

Table No. 9.—(*Continued.*)

Summary in Quinquennial periods of age, and Rates per cent. of Mortality, Withdrawal, Widowhood, and Retirement.

WIVES.

	1	2	3	4	5	6		7	8	1	2	3	4	5	6
	Active List.									Retired List.					
Age.	Entered.	Lived.	Killed.	Died.	Withdrew.	Became Widows.	Husbands killed.	To Retired List.	Living 1st January 1863.	Entered.	Married after Retirement of Husbands.	Lived.	Died.	Became Widows.	Living 1st January 1863.
17	73	104		1		1			10		1	1			
20	196	812	1	14	1	4	7	2	59	2	3	4		3	
25	102	939	1	11	2	3	10	8	77	8	4	30			3
30	62	803		11	3	1	7	26	57	26	1	106	1		8
35	32	521	1	5	4	1	9	12	34	12		137	2	2	13
40	26	343		2	2	2	3	27	24	27		139		3	32
45	13	195					4	23	10	23		124	1	1	12
50	3	97			2		5	8	3	8		103	1	1	16
55		26						8		8		68	1	3	15
60	1	6		1				1		1		18		1	4
65–66												2			1
	508	3846	3	45	14	12	45	115	274	115	9	732	6	14	104

RATES PER CENT.

	1	2	3	4	5	6	1	2	3	4
	Active List.						Retired List.			
Age.	Exposed to Risk.	Died.	Withdrew.	Became Widows.	To Retired List.	Total.	Exposed to Risk.	Died.	Became Widows.	Total.
17	66·5	1·50		1·50		3·01	·5			
20	699·5	2·14	·14	1·57	·29	4·14	1·5		200	200
25	870·5	1·38	·23	1·49	·92	4·02	24·5			
30	748·	1·47	·40	1·07	3·48	6·42	90·5	1·10		1·10
35	489·	1·23	·82	2·04	2·45	6·54	128·5	1·56	1·56	3·11
40	312·	·64	·64	1·60	8 65	11·54	124·		2 42	2·42
45	175·			2·29	13·14	15·43	111·5	·90	·90	1·79
50	88·		2·27	5·68	9·09	17 04	98·	1·02	1·02	2·04
55	22·				36·36	36·36	62·	1·61	4·84	6·45
60	4·5	22·22			22·22	44 44	17·		5·88	5·88
65							2·			
	3475·	1·38	·40	1·64	3·31	6·73	660·	·91	2·12	3·03

Tables No. 9 and No. 5.

Bengal Civil Fund.

Summary in Quinquennial periods of age. Rates per cent. of Mortality, &c., amongst Females including Wives and Widows.

	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5
	Wives of Members (Active and Retired.)							Widows.							Total Female Lives.				
						Rates per cent.							Rates per cent.					Rates per cent.	
Age.	Exposed to Risk.	Died.	Withdrew.	Became Widows.	Died.	Withdrew.	Became Widows.	Exposed to Risk.	Died.	Withdrew.	Re-married.	Died.	Withdrew.	Re-married.	Exposed to Risk.	Died.	Withdrew.	Died.	Withdrew.
17	67	1		1	1·49		1·49								67	1		1·49	
20	701	15	1	14	2·14	·14	2·00	14			1			7·14	715	15	1	2·10	·14
25	895	12	2	13	1 34	·22	1·45	51			2			3·92	946	12	2	1·27	·21
30	838·5	12	3	8	1·43	·36	·95	100	1		3	1·00		3·00	938 5	13	3	1·38	·32
35	617·5	8	4	12	1·30	·65	1·94	131	1		1	·76		·76	748·5	9	4	1·20	·53
40	436	2	2	8	·46	·46	1·84	131·5	1			·76			567 5	3	2	·53	·35
45	286·5	1		5	·35		1·74	122		1			·82		408·5	1	1	·25	·25
50	186	1	2	6	·54	1·07	3·23	176·5	3	1	1	1·70	·57	·57	362·5	4	3	1·10	·83
55	84	1		3	1·19		3·57	186	2			·54			270	3		1·11	
60	21·5	1		1	4·65		4·65	139·5	4	1		2·87	·72		161	5	1	3·11	·62
65	2							61	3			4·92			63	3		4·76	
70								33							33				
75								11	1			9·09			11	1		9·09	
80								12	1			8·33			12	1		8·33	
85-86								1 5	1			66·67			1·5	1		66 67	
	413·5	54	14	71	1·31	·34	1·72	1170	18	3	8	1·54	·26	·68	5305·	72	17	1·36	·32

Summary in Decennial periods of age. Rate of Mortality only.

	1	2	3	1	2	3	1	2	3	1	2	3	4	5
	Wives.			Widows.			Both.			Comparisons of Rate of Mortality amongst Female Lives.				
												Madras Military Fund, 1808 to 1850, (S. Brown.)		
Age.	Exposed to Risk.	Died.	Rate per cent.	Exposed to Risk.	Died.	Rate per cent.	Exposed to Risk.	Died.	Rate per cent.	Farr's Healthy Life.	G. Davies, Madras Military Fund.	Wives.	Widows.	Both.
15	768	16	2·08	14			782	16	2 05	·77	·85	1·74	·65	1·68
25	1733·5	24	1·39	151	1	·66	1884·5	25	1·33	·89	1·31	1·23	1 51	1·28
35	1053 5	10	·95	262·5	2	·76	1316	12	·91	1·00	1·89	1·36	1·17	1 30
45	472 5	2	·52	298·5	3	1·01	771·5	5	·65	1 19	2·68	·87	1 72	1 29
55	105·5	2	1·90	325·5	6	1·84	431	8	1·86	2·16	3·80	1·36	1·87	1 72
65	2			94	3	3·19	96	3	3·13	4·99	6 33		4·08	3·30
75				24·5	3	12 24	24·5	3	12·24	11·87	12 99		11·20	10·61
85-86														
	4135	54	1·31	1170	18	1·54	5305	72	1·36			1·34	1·68	1 43
												22121 5	8343·5	30768
												300	140	410

Table No. 10.

Bengal Civil Fund.

Observations of Mortality, withdrawal, and Pensionment amongst the Sons of living Members in the 13 years 1850 to 1862 inclusive.

Amongst Male Children living 1st January 1850.

	1	2	3	4	5	6	7
Age.	Living 1st Jan. 1850.	Lived.	Died.	Withdrew.	Pensioned by Govt.	Pensioned by Fund.	Living 1st Jan. 1863.
0	49	49					
1	33	82	2				
2	37	117	1				
3	29	145	3				
4	21	163				1	
5	26	188					
6	27	215					
7	22	237	1			3	
8	21	254	3	1	1		
9	26	275			2	2	
10	23	294	1		1	4	
11	15	303	4		1	1	
12	14	311	1	1	1	4	
13	15	319			1	8	35
14	13	288		1	2	4	28
15	6	259	1	1	2		29
16	7	233		4		3	23
17	7	210	1	12		7	12
18	2	180	1	23		4	19
19	3	136		22		1	13
20	1	101	2	17		1	7
21		74		74			
	397	4433	21	156	11	43	166

Table No. 10.—(*Continued.*)

Amongst Male Children born since 1st January 1850, *of Fathers then living married, or then living and married since.*

	1	2	3	4	5	6	7	8
Age.	Born.	Lived.	Killed.	Died.	Withdrew.	Pensioned by Govt.	Pensioned by Fund.	Living 1st Jan. 1863.
0	458	458		14			8	23
1		413	2	30		1	2	32
2		346		11		2	4	14
3		315		3	1		3	35
4		273		2		1	3	22
5		245	1	2	1		1	32
6		208				2	2	26
7		178				1	2	27
8		148		1			3	25
9		119			1		2	31
10		85					1	27
11		57					1	23
12		33					1	32
	458	2878	3	63	3	7	33	349

Table No. 10 —(*Continued*)

Amongst Male Children born of Fathers who entered and married since 1*st January* 1850.

	1	2	3	4	5	6	7
Age.	Born.	Lived.	Died.	Withdrew.	Pensioned by Govt.	Pensioned by Fund.	Living 1st Jan. 1863.
0	113	113	6		1	1	24
1		81	4		1	1	18
2		57	2				14
3		41				1	9
4		31					10
5		21	1			1	5
6		14		1			7
7		6					4
8		2					2
9							
	113	366	13	1	2	4	93

Table No. 10.—(*Continued.*)

Summary in Quinquennial periods of Age, and rates per cent. of Mortality and Withdrawal amongst the Sons of living Members.

	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
	Male Children living 1st January 1850.							Male Children born since 1st Jan. 1850.							
Age.	Living 1st Jan. 50.	Lived.	Died.	Withdrew.	Pensioned by Govt.	Pensioned by Fund.	Living 1st Jan. 63.	Born.	Lived.	Killed.	Died.	Withdrew.	Pensioned by Govt.	Pensioned by Fund.	Living 1st Jan. 63.
0	49	49						571	571		20		1	9	47
1	33	82	2						494	2	34		2	3	50
2	37	117	1						403		13		2	4	28
3	29	145	3						356		3	1		4	44
4	21	163				1			304		2		1	3	32
0	169	556	6			1		571	2128	2	72	1	6	23	201
5	122	1169	4	1	3	5			941	1	4	3	3	11	159
10	80	1515	6	2	6	21	63	(10-13)	175					3	82
15	25	1018	3	62	2	15	96								
20	1	101	2	17		1	7								
21		74		74											
	397	4433	21	156	11	43	166	571	3244	3	76	4	9	37	442

	1	2	3	4	5	6	7	8	9	10	11	12
	Total								Rates Per Cent.			
Age.	Entered.	Lived.	Killed.	Died.	Withdrew.	Pensioned by Government.	Pensioned by Fund.	Living 1st Jan. 1863.	Exposed to Risk.	Died.	Withdrew.	Pensioned.
0	620	620		20		1	9	47	295	6·78		3·39
1	33	576	2	36		2	3	50	538	7·06		·93
2	37	520		14		2	4	28	491·5	2·85		1·22
3	29	501		6	1		4	44	481	1·25	·21	·83
4	21	467		2		1	4	32	453	·44		1·10
0	740	2684	2	78	1	6	24	201	2258·5	3·54	·04	1·33
5	122	2110	1	8	4	6	16	159	2031·5	·44	·20	1·08
10	80	1690		6	2	6	24	145	1631	·37	·12	4·90
15	25	1018		3	62	2	15	96	964·5	·31	6·43	1·76
20	1	175		2	91		1	7	127·5	1·57	71·37	·78
21												
	968	7677	3	97	160	20	80	608	7013·	1·43	2 28	1·43

Tables No. 10 and No. 6.

Summary in Quinquennial periods of age, and rates per cent. of Mortality and Withdrawal amongst male children, including Pensioners, except those whose Parents were killed in the Mutiny.

	1	2	3	4	5	6	7
				RATE PER CENT.			
Ages.	Exposed to Risk.	Killed.	Died.	Withdrew.	Died	Withdrew.	Both.
0	2328·5	2	78	1	3·44	·04	3·48
5	2161·5	1	9	4	·46	·19	·65
10	1865·5		8	4	·43	·22	·65
15	1233·		4	93	·32	1·55	7·87
20-21	162·5		2	25 104 or 121	1·23	79·39	80 62
	7751·	3	101	127 104	1·34	1·64 1·34 2·98	4·32 attained at 21

Table No. 11.

Bengal Civil Fund.

Observations of Mortality, Withdrawal, Marriage, and Pensionment amongst the Daughters of living Members in the thirteen years, 1850 *to* 1862 *inclusive.*

Amongst Daughters living 1st January 1850.								
Age.	Living 1st January 1850.	Lived.	Died.	Withdrew.	Married.	Pensioned by Government.	Pensioned by Fund.	Living 1st January 1863.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0	24	24						
1	27	51						
2	30	81						
3	23	104						
4	28	132	1	.....	.....	.....	1	
5	27	157	.....	.....	.....	.....	1	
6	23	179	2	.....	.....	.....	1	
7	31	207	2	.....	.....	.....	4	
8	16	217	2	1	.....	.....	3	
9	21	232	.....	1	.....	.....	3	
10	15	243	.....	2	.....	2	1	
11	15	253	.....	.....	.....	.....	4	
12	15	264	.....	.....	.....	1	7	
13	12	268	1	1	.....	.....	5	15
14	11	257	1	.....	.....	.....	7	22
15	8	235	2	1	.....	.....	6	22
16	10	214	2	.....	.....	.....	5	17
17	6	196	3	1	4	.....	5	18
18	6	171	.....	.....	11	.....	4	23
19	3	136	.....	.....	12	.....	4	16
20	8	112	.....	1	9	.....	2	20
21	1	81	.....	.....	8	.....	2	12
22	.....	59	.....	.....	8	.....	.....	7
23	.....	44	.....	.....	2	.....	.....	6
24	1	37	.....	.....	4	.....	.....	7
25	2	28	.....	.....	3	.....	2	6
26	.....	17	.....	.....	1	.....	.....	3
27	.....	13	.....	.....	.....	.....	.....	1
28	.....	12	.....	.....	.....	.....	.....	2
29	1	11	.....	.....	.....	.....	1	1
30	1	10	.....	.....	1	.....	.....	1
31	.....	8	.....	.....	1	.....	.....	.....
32	1	8	.....	.....	.....	.....	.....	.....
33	1	9	.....	.....	.....	.....	.....	3
34	.....	6						
35	.....	6						
36	.....	6						
37	.....	5	.....	.....	.....	.....	.....	1
38	.....	4	.....	.....	.....	.....	.....	1
39	.....	4						
40	.....	4						
41	.....	4						
42	.....	3	.....	.....	.....	.....	.....	1
43	.....	2	.....	.....	.....	.....	.....	1
44	.....	2						
45	.....	1	.....	.....	.....	.....	.....	1
46	.....	.....	.....	.....	.....	.....	.....	1
47								
48								
49								
Total ...	367	4123	16	8	64	3	68	208

Table No. 11.—(*Continued.*)

Amongst Daughters born since 1*st January* 1850 *of Fathers then living, married, or then living and married since.*

Age.	Born.	Lived.	Killed.	Died.	Withdrew.	Pensioned by Government.	Pensioned by Fund.	Living 1st Jan. 1863.
	1	2	3	4	5	6	7	8
0	407	407	...	13	...	...	4	30
1	...	360	...	21	1	1	6	23
2	.	308	1	12	...	...	2	28
3	...	265	1	3	...	2	3	22
4	...	234	...	1	...	1	5	16
5	...	211	1	1	...	...	2	20
6	...	187	...	...	...	...	2	29
7	...	156	...	...	1	...	1	26
8	...	128	...	1	...	..	...	36
9	...	91	...	...	...	...	...	21
10	...	70	...	...	..	...	...	26
11	...	44	...	...	...	...	...	21
12	...	23	...	...	...	...	...	23
	407	2,484	3	52	2	4	25	321

Table No. 11.—(*Continued.*)

Amongst Daughters born of Fathers who entered and married since 1*st January* 1850.

Age.	Born.	Lived.	Died.	Withdrew.	Pensioned.	Living 1st January 1863.
	1	2	3	4	5	6
0	106	106	3	...	1	26
1	...	76	5	1	...	14
2	...	56	1	1	1	14
3	...	39	...	...	...	16
4	...	23	...	1	...	6
5	...	16	...	...	...	4
6	...	12	...	...	1	2
7	...	9	...	...	1	4
8	...	4	...	...	...	1
9	...	3	...	...	...	2
10	...	1	...	...	...	1
11	...	...	...	...	...	...
12	...	...	...	...	...	...
	106	315	9	3	4	90

Table No. 11.

Summary in Quinquennial periods of age, and rates per cent. of Mortality, Withdrawal, and Marriage amongst the Daughters of living Members.

Ages.	Daughters living 1st January 1850.								Daughters born since 1st January 1850.							
	Living 1st January 1850.	Lived.	Died.	Withdrew.	Married.	Pensioned by Government.	Pensioned by Fund.	Living 1st January 1863.	Born.	Lived.	Killed.	Died.	Withdrew.	Pensioned by Government.	Pensioned by Fund.	Living 1st January 1863.
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
0	24	24	...	...	...	...	...	...	513	513	...	16	...	...	5	56
1	27	51	...	...	...	...	...	...	...	436	...	26	2	1	6	37
2	30	81	...	...	...	...	...	...	...	364	1	13	1		3	42
3	23	104	...	...	..	...	...	...	...	304	1	3	...	2	3	38
4	28	132	1	...	...	...	1	...	...	257	...	1	1	1	5	22
0	132	392	1	...	...	...	1	...	513	1874	2	59	4	4	22	195
5	118	992	6	2	..	...	12	...	...	817	1	2	1	...	7	145
10	68	1285	2	3	...	3	24	37	...	138	...	...	..		...	71
15	33	952	7	2	27	...	24	96								
20	10	333	...	1	31	...	4	52								
25	3	81	...	...	4	...	3	13								
30	3	41	...	...	2	...	...	4								
35	...	27	...	...	...	...	...	2								
40	...	17	...	...	...	...	...	2								
45–47	...	3	...	...	...	..	...	2								
	367	4123	16	8	64	3	68	208	513	2829	3	61	5	4	29	411

Ages.	Total.									Rates per Cent.				
	Entered.	Lived.	Killed.	Died.	Withdrew.	Married.	Pensioned by Government.	Pensioned by Fund.	Living 1st January 1863.	Exposed to Risk.	Died.	Withdrew.	Married.	Pensioned.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	537	537	...	16	...	...	...	5	56	258·	6·20	...	...	1 94
1	27	487	...	26	2	...	1	6	37	456·	5·70	·44	...	1·54
2	30	445	1	13	1	.	. .	3	42	421	3·33	·24	...	·71
3	23	408	1	3	...	...	2	3	38	392	1·02	...	...	1·28
4	28	389	...	2	1	...	1	6	22	370	·54	·27	...	1·89
0	645	2266	2	60	4	...	4	23	195	1897·	3·27	21	...	1·42
5	118	1809	1	8	3	.	...	19	145	1734·5	·52	·17	...	1·10
10	68	1423	...	2	3	...	3	24	108	13·3	·15	22	...	1·96
15	33	952	...	7	2	27	...	24	96	905·5	·77	·22	2·98	2 65
20	10	333	...	...	1	31	...	4	52	310	...	·32	10	1·29
25	3	81	...	...	...	4	...	3	13	76	...	...	5·26	3·95
30	3	41	...	...	...	2	...	...	4	38·5	...	...	5·19	
35	...	27	...	...	...	...	...	...	2	27·				
40	...	17	...	..	...	...	...	...	2	17·				
45–47	...	3	...	...	...	...	...	...	2	3·				
	880	6952	3	77	13	64	7	97	619	6381·5	1·25	·20	1·00	1 63
									Age 15 to 47	=1377	·51	·22	4·65	2·2

Tables No. 11 and No. 7.

Summary in Quinquennial periods of age, and rates per cent. of Mortality, Withdrawal, and Marriage amongst Daughters of Members, including Pensioners, except those whose Parents were killed in the Mutiny.

Ages.	Exposed to Risk.	Killed.	Died.	Withdrew.	Married.	Rates per Cent.			
						Died.	With-drew.	Married.	Total.
	1	2	3	4	5	6	7	8	9
0	1946·5	2·	62	4	...	3·29	·20	...	3·49
5	1878·	1·	8	3	...	·48	·16	...	·64
10	1606·5	...	3	4	...	·19	·25	...	·44
15	1213·5	...	8	3	34	·66	·25	2·80	3·71
20	547·	...	2	2	53	·37	·36	9·69	10·42
25	224·	...	1	3	11	·45	1·34	4·91	6·70
30	156·5	...	1	2	5	·64	1·28	3·19	5·11
35	88·5	...	1	1	...	1·13	1·13	...	2·26
40	36·	...	...	...	...				
45	9·	...	...	...	...				
50	2·5	...	...	...	...				
55	3·5	...	1	...	...	1·96	...	...	1·96
Total ...	7711·5	3·	87	22	103	1·17	·28	1·34	2·79
Ages 15-60	2280·5	...	14	11	103	·61	·48	4·52	5·61

Table No. 12.

BENGAL CIVIL FUND.

Ages of 244 Bachelors who have married in the thirteen years since 1st January 1850, and the ages of their Wives at date of Marriage.

Age of Husband.	Number who married.	Ages of Wives.
20	2	21, 25.
21	9	18, 19(2), 20, 21(4), 22.
22	18	18(3), 19(4), 20(3), 21(2), 22(3), 23(2), 25.
23	32	17, 18(4), 19(5), 20(6), 21(4), 22(7), 23, 24(2), 29, 30.
24	26	18, 19(5), 20(4), 21(2), 22(7), 23(3), 25(2), 28, 29.
25	16	18, 19(3), 20, 21(5), 22, 23(2), 24(2), 27.
26	19	17(2), 18, 19(2), 20(3), 21(2), 22(3), 23, 24(2), 26, 27, 28.
27	20	17(2), 18(2), 19(2), 20(3), 21(2), 22(2), 23(2), 24, 25, 26, 27, 28.
28	13	19(2), 20(2), 21(2), 22(2), 24, 25, 29, 30(2).
29	10	19, 21, 22(3), 23(3), 24, 25.
30	18	18, 19(4), 20, 21(3), 22(2), 23, 25(2), 26(2), 30, 35.
31	12	17, 18, 20(2), 21, 22, 23, 24, 26, 27, 33, 35.
32	5	20, 21, 23(2), 32.
33	9	19(3), 21, 22, 23(2), 30, 36.
34	7	19(2), 20(2), 21(2), 33.
35	4	19, 21, 23(2).
36	1	28.
37	2	23, 29.
38	3	21, 25, 27.
39	3	19, 20, 27.
40	1	19.
41	2	25, 28.
42	0	
43	1	30.
44	2	18, 19.
45	1	26.
46	1	33.
47	1	30.
48	2	33, 36.
49	1	29.
50	1	23.
51	1	32.
58	1	19.

Table No. 12.

Summary in Quinquennial periods of age of Husbands and Wives.

Husbands' Ages.	Wives' Ages.					Total.
	17	20	25	30	35	
20	26	53	7	1	.....	87
25	18	47	11	2	.....	78
30	12	25	6	5	3	51
35	2	6	5	.....	.....	13
40	3	.....	2	1	.....	6
45	...	.....	2	3	1	6
50	...	1	.....	1	.....	2
55	1	.....	.....	.....	....	1
Total ...	62	132	38	13	4	244

Table No. 13.

BENGAL CIVIL FUND.

Widows, Sons, and Daughters admitted as Pensioners from 1*st January* 1850 *to* 1*st January* 1863 *at their ages on date of admission.*

Age.	Total Widows.	Age of Sons.	No.	Age of Daughters.	No.
20	1				
22	2	0.	1		
22					
23	3	0.	1		
23		3, 2, 1.	3	0.	1
23					
24	4	11.	1	18.	1
24				0.	1
24		4, 3.	2		
24					
25	1	2.	1	3, 0, 0.	3
26	2	2, 0.	2	6, 3.	2
26		4, 2.	2	6, 5, 1.	3
27	2			5, 4.	2
27		4.	1	8, 6.	2
28	2			3.	1
28		5, 3.	2		
29	2				
29		0.	1	2.	1
30	1				
31	4				
31		9, 6, 2.	3	4, 1.	2
31		0,	1	14, 3.	2
31		3, 0.	2	2.	1
32	1	10, 7, 0.	3	1.	1
34	3	6, 0.	2	16, 14, 12.	3
34		16, 11, 10, 4.	4	18, 15, 14, 9, 7, 2, 0.	7
34		0.	1	7, 6.	2
35	3	11.	1	18, 12, 9, 8.	4
35					
35					
36	4			13, 0.	2
36					
36		13.	1	4.	1
36				4.	1

Table No. 13.—(*Continued.*)

Age.	Total Widows.	Age of Sons.	No.	Age of Daughters.	No.
37	1				
38	3			14, 12, 10, 6.	4
38		13, 7.	2	17, 15.	2
38		14, 10, 7, 5.	4	13, 11, 0.	3
40	2	18, 1, 0.	3	16, 14.	2
40		16.	1	18, 14.	2
41	2	13, 12, 8, 7, 4.	5		
41		9, 7, 0.	3	19.	1
42	1	13, 11, 8.	3	5.	1
44	2				
44					
47	1				
48	2	18, 16, 13.	3	12, 10.	2
48		20, 17, 13, 11.	4	7, 4.	2
49	2	16, 11, 7.	3	21, 13, 9.	3
49		13.	1	16, 15.	2
50	2	8.	1		
50		19, 13, 9.	3	17, 15, 11.	3
53	2			24, 12.	2
53					
54	1				
55	2				
55					
56	2	16.	1	29, 26, 19.	3
56		17.	1		
58	1				
65	1				
67	1				
	63	.....	73	.....	75
	No mother.				
	„	.....	...	13.	1
	„	7.	1		
	„	16, 12, 5.	3	18, 10, 8.	3
	„	0.	1		
	„	13.	1	17, 16, 12, 9, 6.	5
	„	18.	1	19.	1
	„	16.	1	18.	1
	„	.....	...	27, 23, 13.	3
	„	16, 12.	2	17, 15.	2
		Totals ...	83	.....	91

Table No. 13.—(*Continued.*)

Husbands or Father killed in the Mutiny.

Age.	Total. Widows.	Age of Sons.	No.	Age of Daughters.	No.
19	1				
21	1	0, 0.	2		
25	2				
25					
27	1	.....	...	5, 2, 0.	3
32	1	8, 5, 3.	3	9, 2, 0.	3
33	2	8, 6, 1.	3		
33					
38	1	17, 9.	2	14, 13, 12, 10, 7.	5
40	1	13, 11, 10, 8, 7, 5.	6	3.	1
43	1	10, 4.	2	21, 19, 14, 11.	4
Age not given.	1	2, 1.	2	0.	1
	12	.....	20	.....	17
No mother.	...	14, 12.	2	11,	1
„	...	15, 8.	2	10,	1
			24	.....	19

Table No. 13.

Summary in each year and in quinquennial ages of Widows.

Years.	Admitted to Pensions.							Husbands killed in the Mutiny.		
	Widows.	Sons.	Daughters.	Ages.	Widows.	Sons.	Daughters.	Widows.	Sons.	Daughters.
1850	2	1	2	19	. .	...	...	1		
1851	3	3	5	20	10	8	3	1	2	
1852	2	3	7	25	9	9	14	3	..	3
1853	2	7	14	30	9	16	18	3	6	3
1854	8	9	10	35	11	8	17	1	2	5
1855	3	1	7	40	7	15	6	2	8	5
1856	5	2	5	45	5	11	9			
1857	8	10	10	50	5	4	5			
Mutiny.	12	24	19							
1859	5	3	5	55	5	2	3			
1859	7	8	8	60						
1860	6	14	5	65	2					
1861	4	4	5	Age not given.	...	...	...	1	2	1
1862	8	18	8							
				No mother	63	73	75	12	20	17
					...	10	16	...	4	2
...	75	107	110			83	91	...	24	91

Table No. 14.

BENGAL CIVIL FUND.

Married Members living 1*st January* 1850 *at their ages last birth-day, with the ages of their Wives, and number of Children to each Family subscribed for.*

Age of Husband.	Number living.	Difference of age deduced from the Average of the Wives.	Difference of age deduced from the Number of children.	Wives' ages last birth-day.
	(1)	(2)	(3)	(4)
21	1	0	0	21.
22	3	1	1	23, 21, 20.
23	4	2	3	21, (3), 20.
24	4	2	2	24, 22(3).
25	12	2	12	28, 27(2), 25, 23, 22(2), 20(3), 18(2).
26	5	2	6	27, 26, 23(2), 22.
27	9	4	17	30, 28, 25(2), 22(2), 21, 20, 18.
28	12	4	16	30, 28, 27, 26(3) 24, 22(3), 21 20.
29	6	5	11	28, 27, 24, 22(2), 18.
30	6	6	14	33, 27, 23, 21, 19, 21.
31	4	5	16	28, 27(2). 21.
32	7	4	13	32, 31, 29, 28(2), 25, 23.
33	8	2	30	38, 32(2), 31, 30, 29, 28(2).
34	5	5	26	32, 30, 29, 28(2).
35	4	11	11	32, 27, 20, 18.
36	9	7	29	36(2), 35, 30, 28, 26, 25, 23(2).
37	16	5	58	48, 43, 39, 37, 34, 33, 31, 30, 29(2), 28(2), 27, 26, 24, 21.
38	16	7	88	39, 37(2), 34(4), 31, 30(2), 29(2), 24, 23(2), 20.
39	8	8	39	38, 37, 32, 31(2), 28, 25, 24.
40	12	11	41	40, 35, 33, 32, 31(2), 30, 29, 26, 25, 22, 20.
41	15	4	71	48, 45, 43, 41, 40, 39(2), 37(2), 35, 33, 28(2), 24, 19.
42	15	8	73	44, 43(2), 38, 37, 35, 32(4), 31, 30, 29, 27, 23.
43	5	9	3[illegible]	4[illegible], 38, 31, 30, 28.
44	10	10	40	46, 44, 39, 38, 37, 32, 31, 29, 27, 21.
45	3	0	22	48, 45, 43.
46	4	9	13	44, 41, 33, 30.
47	8	10	35	44(3), 43, 42, 31, 28, 19.
48	3	5	9	50, 40, 38.
49	5	4	19	47, 45, (3), 41.
50	5	12	27	48, 44, 36, 32, 28.
51	4	9	9	44, 43, 41, 40.
52	2	0	8	55, 49.
53	1	26	7	27.
54	2	21	9	41, 25.
55	4	10	16	53, 46(2), 35.

Table No. 14.—*(Continued.)*

Age of Husband.	Number living.	Difference of age deduced from the		Wives' ages last birth-day.
		Average of the Wives.	Number of Children.	
	(1)	(2)	(3)	(4)
56	1	6	7	50.
57	1	24	6	43.
58	3	9	5	50, 49(2).
59	3	18	13	50, 46, 27.
60	1	1	5	59.
61	5	10	31	58, 53, 50, 48, 45.
62	1	1	3	61.
63	1	.....	2	(Widower.)
64	3	9	9	60 (2), 45.
65	1	35	.	30.
67	1	7	3	60.
68	2	25	5	56, 30.
69	1	24	4	45.
	260	. .	914	

Summary in Quinquennial periods of age.

Age.	Average Age.			Number.	Number of Childern.	Average to each.
	Husband.	Wife.	Difference.			
	(1)	(2)	(3)	(4)	(5)	(6)
21	23	21·5	1·5	12	6	·5
25	26·9	23·6	3·3	44	62	1·5
30	32·1	27·8	4·3	30	99	3·3
35	37·3	30·2	7·1	53	225	4·2
40	41·8	33·5	8·3	57	255	4·5
45	47·1	40·4	6·7	23	98	4·3
50	51·4	39·5	11·9	14	60	4·3
55	57·	45·3	11·7	12	47	3·9
60	61·9	53·9	8·0	10	48	4·8
65	67·4	44·3	23·1	5	12	2·4
	39·3	32·4	6·9	260	912	3·5

Table No. 15.

Bengal Civil Fund.

Married Members living 1*st January* 1863, *at their ages last birth-day, with the ages of their Wives, number of years since date of Marriage, and the ages of the Children of both Sexes subscribed for and living at that date.*

A. Active. | *C.* Widower, Active.
B. Retired. | *D.* Ditto, Retired.

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
1	2	3	4	5
21	21	0		
	21	0		
22	18	0		
	21	0		
	22	0		
	22	0		
23	19	0		
	*19	1		
	22	1		
24	22	0		
	22	1	.....	0.
	20	2	0.	1.
	22	3	.....	2, 1, 0.
	23	0		
	23	1	0.	
	*25	1		
	*25	1	.....	0.
	25	0		
	25	3	.....	2.
25	19	0		
	20	0	.....	0.
	22	1	.. ...	0.
	23	0		
	24	2	1, 0.	
	24	4	1.	3.
	*25	2	0.	
	25	3		3, 2.
	26	2		0.
	26	3	2, 0.	
	26	1		0.
	28	3	0.	
25	29	1	0.	
	30	5	.....	4, 3, 1, 0.
	31	2		
26	17	0		
	20	0		
	22	2	0.	
	22	2	1.	
	23	3	2, 1, 0.	
	23	4	3.	1.
	23	5	.....	3, 2, 0.
	24	1		
	24	2	.. ...	0.
	24	2	.....	0.
	24	5	3, 1.	4.
	27	0		
27	?23	1	.....	0.
	20	0		
	22	3		
	23	1	.....	0.
	23	1	0.	
	23	2		
	25	4	4, 2, 0.	
	25	4	3.	1.
	26	0		
	26	2	.....	1.
28	?25	3	.....	2, 1.
	18	1	0.	
	19	0		
	23	4	.....	2, 0.
	23	5	5.	3.
	24	3		

* Entered as married. The figure 2 above implies second and third wife, and the children of previous marriage are indicated thus (0).

Table No. 15 *A*.—(*Continued.*)

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
1	2	3	4	5
28	24	4	3, 0.	
	24	5	3, 2, 0.	
	25	3	1.	2.
	26	1	.....	0
	26	6	0.	3, 1.
	29	8	6, 4, 2.	7.
	32 c	1	(4, 2)0.	
29	19	0		
	23	0		
	25	2	.....	0
	26	2	1, 0.	
	29	8		
	30	1		
	25 2	0	.....	(7)
30?	27	5	4.	3, 2.
	21	0		
	21	3	2.	1.
	23	1	.....	0
	24	1		
	24	2	.....	2, 0.
	24	3	.....	1.
	25	1	.....	0
	26	0		
	26	5	1, 0.	
	*28	6	3, 1.	4.
	28	7	6, 1.	5, 3.
	28	8	4, 3, 1.	7.
	*29	6		
	31	8		
	25 3	1	(7)	(3) 0.
31	22	3	.....	1.
	24	2	.....	1.
	26	7	6, 4.	5, 2.
	27	7		
	28	7	2.	4, 0.
	28	8	2, 0.	
	28	8		
	33	3	1.	
	36	1		
32	23	5	4, 1.	2.
	24	3	2, 0.	
32	24	4	2.	3, 0.
	25	5		
	26	7	1.	3.
	34	6	0	4, 3, 1.
33	22	3	.....	2.
	23	6	.....	3, 0.
	28	3		
	28	10	7, 6.	9, 3, 1, 0.
	28	10	.....	2, 1.
	29	10	8, 2.	1.
	30	11	3.	10, 8, 7, 1.
	30	11	6.	2, 0.
	31	9	.....	6, 1.
	32	10	1.	6, 3.
	33	7	6.	4.
	35	2	0	
	38	9	.....	8.
	40	10	8, 3.	9, 6.
34	22	1	.....	0
	27	3	1.	
	27	8	4.	2.
	28	8	7, 6, 3, 2.	0
	30	8	5, 1.	
	30	9		
	30	9	6, 5, 4, 2, 0.	
	30	11	11.	8, 7, 1.
	38	3	.....	1.
	29 2	1	.....	(4, 1).
35?	22	0		
	19	0		
	21	2	.....	0
	24	4	1.	3.
	26	5		
	28	7	5, 0.	4, 2.
	29	6	3.	0.
	29	9	.....	8, 7, 5, 3.
	30	4	.....	1.
	30	5	2.	4, 1.
	30	11	4.	9, 8, 6, 0.
	30	12	9, 8, 3.	11, 7.
	31	8	7, 4.	6, 3, 1.

Table No. 15 *A*.—(*Continued.*)

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
1	2	3	4	5
35	31	12	11, 9, 6.	1, 0.
	32	9	8, 7, 2.	3.
	33	11	8, 7.	10.
	34	12	.....	11, 9, 6, 2, 0.
	34	12	.....	.....
	35	8	.....	.....
	35	12	11, 10, 3, 1.	8.
	36	8	11, 9, 7, 1.	.....
36	22	1	.....	1.
	28	9	7.	7, 2, 0.
	28	10	3.	6, 0.
	29	8	7, 1.	6, 3.
	29	11	5.	8, 7.
	32	6	.....	.....
	33	14	.....	13, 12, 0.
	33	3	2.	....
	34	13	4, 1.	11, 9, 6.
	34	15	.....	1.
	37	9	.....	6.
	29[c]	5	(10).	4, 4, 0.
	33[c]	5	.....	.....
37	23	3	.....	0.
	24	3	.....	.....
	26	7	7, 3.	5.
	27	7	0.	6, 5, 3.
	28	6	5.	2, 0.
	30	8	5, 4.	7, 2, 0.
	31	12	4, 0.	8, 5, 1.
	33	6	.....	.....
	35	13	11, 7, 5, 1.	13, 10, 2.
	37	14	.....	12, 7.
38	21	0	.....	.....
	27	7	7, 5, 1.	3.
	28	5	.....	2, 0.
	28	5	4, 3, 1.	0.
	30	8	1.	3, 0.
	31	11	10, 1.	8.
	31	13	11, 6, 4, 0.	12, 9.
	32	10	7, 3, 2.	8.
	33	14	13, 5.	11, 10, 1.
38	33	15	14, 8.	12.
	35	16	.....	.....
	36	17	16, 15, 11, 9.	13, 7, 5, 2.
	38	14	13, 12, 10, 6.	8.
	40	15	.....	.....
	41	5	0.	3.
	41	15	13, 10.	.....
	24[c]	3	2, 1, 0.	.....
39	25	2	1.	.....
	28	6	5, 4, 0.	2.
	31	2	1.	.....
	31	3	.....	1.
	31	9	5, 1, 0.	8, 7.
	33	12	3, 0.	10, 6.
	36	13	.....	8.
	39	17	15.	14, 0.
	26[c]	1	.....	0.
40	19	0	.....	.....
	29	8	4, 0.	7.
	29	10	9.	7, 3, 1, 0.
	31	14	13, 6, 1.	11, 10, 8.
	33	13	8, 7, 3.	9, 2.
	34	16	11, 5, 3, 1.	14, 13, 8, 6, 2.
	35	14	12, 3, 1.	6.
	35	16	15,14,12,10,95	.....
	39	6	2.	3.
	41	18	12.	17, 16, 14.
	43	19	8.	12, 10, 5. 2.
	24[c]	0	(15, 5).	(12, 10, 8, 3).
41	?34	12	.....	12, 10, 7, 6, 4, 2.
	25	0	.....	
	28	3	.....	2, 1.
	29	6	3, 1.	5, 0.
	34	14	9.	13, 10, 7, 6, 4.
	35	15	12, 10, 7.	14, 3.
	35	16	13, 7.	15, 11, 5, 0.
	35	16	12, 9, 4.	14.
	37	17	13, 12, 5, 2, 1.	10.
	39	17	.....	15, 13, 10, 10.
	40	19	10, 0.	12, 8, 6.

Table No. 15 *A.*—(*Continued.*)

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
1	2	3	4	5
41	43	17	.....	
42	27	8	5, 4, 1, 0.	3.
	30	10	6, 3.	8, 1.
	31	12	3.	11, 8, 6, 0.
	32	11	10, 8.	
	35	12	7, 3.	6, 5.
	35	15	15, 13, 11, 9, 7.	14.
	37²	16	10.	(18), 15, 13.
43	28	9	8, 6, 5.	
	32	15	14, 1, 0.	12, 8, 5.
	35	16	15.	10, 6, 2.
	40	22	17, 15, 12, 6.	11, 9, 6, 2, 0.
	46	22	19, 15, 8, 3.	20, 14, 5.
	27²	6	(12), 0.	(14, 8), 4, 3, 2.
	41²	3	.....	
44	40	20	12, 10, 9, 5.	20, 18, 15, 13, 7, 0.
	40	21	13, 8.	18, 11, 10, 0.
	45	22	11, 9, 4, 0.	18, 17, 7.
45	31	11	9, 8, 5, 3.	10.
	33	6	1.	5, 3.
	41	13	.....	
	41	24	20.	
	45	14	13, 9, 8, 6.	11.
46	41	24	13.	20, 17.
	43	23	19, 15.	17.
	45	20	14, 10, 7.	17, 15, 4.
	26	2	(16, 15, 11, 9).	1.
	42²	23	16.	(24), 21, 20.
47	?45	25	12, 11, 9, 5.	19, 18, 7.
	45	25	16, 5.	14.
	45	20	15, 14, 11.	17, 16, 12.
	35²	16	10, 8.	(22), 6.
48	28	9	6, 1.	8, 4, 0.
49	29	0	.....	
	44	16	14, 3, 0.	
50	31	11	4.	9.
	35	2	.....	
	39	14	13, 10, 6, 2.	5.
	40	16	14, 12.	15.
	41	24	18, 12, 11.	7.
	44	21	17, 14, 13, 12, 10	
51	36	13	.....	6.
	37	16	15, 9, 6, 2.	13.
	38	10	7, 6, 3.	9, 5.
	46	23	18.	22, 16, 13, 9, 8, 6.
	47	25	18, 16, 10.	9, 3.
	32²	10	(12), 3,	(19, 15), 9, 7.
52	44	26	17, 12, 9.	21.
	38²	17	16, 15, 13, 10.	6.
	41²	23	10, 5.	20, 16, 11, 8.
53	43	22	20, 19, 12, 9, 7.	14.
	46	25	12.	16.
54	28	10	.....	7, 4.
	53	33	15.	
	52²	19	.....	18, 17, 15, 13, 10.
55	45	30	18, 17.	20, 15.
	51	32	17.	22, 15, 12.
58	?40	20	18, 16, 13.	9.

C. Widowers Active:

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
24	...	3		
26	...	1		
	..	3		
29	...	2		
	...	6		
31	..	?	5, 4, 2, 1, 0.	
33	...	7		
	...	9	.....	5.
36	...	13	12, 9.	7.
37	...	12	.....	11, 6.
38	...	8	6, 2.	7.
	...	13	9, 6, 5.	
	...	5²	.....	3.
39	...	15	14, 14, 8, 4.	12, 6.
41	...	6		
	.	20	19, 14, 6, 4.	17, 16, 9, 8, 2.
44	...	17	15, 13, 8.	12.
47	...	12²	(16, 13) 6, 4, 2.	9, 8.
48	. .	?	20.	25, 21, 18.
49	...	19	15, 10.	6.
52	..	8		

Table No. 15 *B*.

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
1	2	3	4	5
38	30	10	8, 4, 1, 0.	9, 5.
41	35	13	10, 4.	12.
	39	19	18, 7, 5, 3.	2.
45	42	0	...	...
47	41	20	14, 7.	18, 16, 10.
	43	16	...	11, 4, .
	31²	9	(19, 16, 9) 6.	(15) 3.
48	40	13	10, 9.	12, 0.
	42	20	14, 11, 10.	17, 8.
	27²	8	7, 4.	...
49	39	18	0	7, 5, 2.
	41²	13	(19, 18, 16) 3.	(25) 5, 0.
	42²	0	(14, 10).	(17, 16, 7).
50	34	16		...
	42	22	9, 0.	22, 20, 18, 14, 12.
	42	23	18, 15, 10.	...
	43	16		11.
	47	26		...
	52	28	18, 13, 8.	23, 21, 19, 15, 11.
	61	30		...
	49²	11	8.	(15).
	50²	24	17, 14.	21, 19.
51	33	15	12.	14, 10, 10.
	36	17	14, 13, 9, 7.	15, 10.
	39	3		...
	42	21	16, 14, 8, 1.	19, 18, 13, 10.
	42	22		...
	44	27	15.	23, 17, 12, 9, 6.
	47	18	17, 15, 14, 12, 8.	...
	47	22	18, 15, 14, 11, 9, 7	21, 20.
	52	29	18.	...
	28²	3		...
	29²	5		(18, 5) 2, 1.
	30²	5	(16, 14) 3, 1, 0.	(24, 18) 2.
52	37	17	15, 13, 11.	8, 4, 2, 1, 0.
	44	22	16, 13, 12, 3.	19, 15, 14, 10, 6.
	50	27	...	22, 18.
	51	16	13, 12.	11, 9, 8, 6.
	33²	0	...	...
53	33	15	13, 9, 5, 3.	14, 11.
53	35	16	13, 6, 3, 1.	15, 10, 8.
	38	21	19, 17, 14, 11, 6, 3	20, 16, 9.
	39	21	19, 2.	17, 9, 5.
	40	7	...	...
	42	26	18, 16.	22, 12.
	44	21	14, 4.	20, 18, 16, 12.
	44	23	...	...
	45	19	...	...
	53	32	17, 12, 9.	21.
54	32	15	14, 12, 0.	4, 2.
	41	22	21, 13, 10, 0.	18, 16, 15, 3.
	47	32	...	...
	48	29	13.	19, 16, 9, 3.
	50	30	19, 13.	28, 17, 9. [3.
	50	32	12, 6.	25, 23, 18, 15, 10,
	52	22	16, 15, 13, 12, 11	...
	58	34	16, 14.	...
	61	32	...	...
	37²	18	...	...
55	36	10	...	...
	36	17	15, 11, 8, 7, 5, 3.	16, 13, 1.
	40	19	17, 16, 12, 11, [9, 7 0.	5, 3.
	43	21	19, 9, 8, 6, 5, 3.	20, 15, 14, 12, 1.
	44	26	...	21, 18, 7.
	45	22	19, 9, 6, 3, 1.	17, 15, 12.
	45	27	18, 9, 6.	19.
	48	22	16, 14, 12.	19, 4.
	50	32	...	18.
	56	28	16, 13.	
56	44	23	8, 5, 3.	14.
	51	28	18, 11.	19, 16, 14, 8.
	54	33	13.	16, 11.
	41²	21	20.	(26)
57	42	21	19, 17.	
	44	22	16.	20, 14, 10.
	50	33	.....	23, 8.
	57	25	18.	24, 21, 19, 16, 15.
	57	34	20, 17, 15.	
	59	36	19.	21.
	40²	16	13, 12.	15, 8, 6.

Table No. 15 *B*.—(*Continued.*)

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
1	2	3	4	5
59	43	26		
	56	35	.....	21.
	57	36	.....	25, 21.
	57	37	15, 13.	
60	41	15		
	55	33	.....	25, 20, 18, 16, 14.
	56	37		
	57	33	.....	27.
	57	39		
	32[2]	6	2, 1.	
	44[3]	18	15, 10, 6, 3.	(25), 14, 5, 0.
61	51	34		
	53[1]	14	13.	(20).
	63	39	.....	20, 18.
62	58	37		
63	45	24	20, 17, 14, 12.	24, 22, 8, 7.
	35[2]	8	5.	(19).
	41[2]	21	8, 5	19, 18, 12.
64	56	38	.....	
	57	39	.....	
67	54	37	18.	28, 23, 13.
68	48	25		
	66	47	.....	46
71	62	47		
72	40	15		

D. Widowers Retired.

Age of Husband.	Age of Wife.	Years of Marriage.	Age of Sons.	Age of Daughters.
49	...	16		
52	...	?	.....	19.
54	...	34	.....	30, 18.
55	...	35		
	...	24	16, 14.	17, 12, 9, 7.
57	...	14	13, 7, 5, 3.	10, 1.
58	...	31	18.	21, 20.
58	...	?	.....	17.
60	...	?	.....	38, 33.
	...	?	.....	20.
66	...	21[2]	12, 8, 5, 4.	20, 18, 17, 15, 10.
74	...	55	.....	45, 43, 42, 37, 33.

Table No. 16.

Bengal Civil Fund.

Pensioners and Members, Active and Retired, living at each Quinquennial period of age on 30th April 1853, 1858, *and* 1863.

30th April 1853.

Age.	Pensioners. Widows. New Rules.	Pensioners. Widows.	Pensioners. Sons. New Rules.	Pensioners. Sons.	Pensioners. Daughters. New Rules.	Pensioners. Daughters.	Active. Married Members.	Active. Sons.	Active. Daughters.	Retired. Married Members.	Retired. Sons.	Retired. Daughters.	Active and Retired Bachelors & Widowers.	Total Members.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
0	...	...	2	...	...	1	...	179	131	...	13	9		
5	...	...	2	5	3	9	...	124	114	...	11	10		
10	.	...	2	19	4	12	...	91	83	...	16	13		
15	...	...	...	17	5	12	...	54	37	...	6	7		
20	...	..	...	8	1	23	10	2	10	...	...	5	86	96
25	2	3	...	...	...	6	48	...	2	...	...	1	72	120
30	1	7	...	...	...	9	45	...	...	...	...	2	24	69
35	3	6	...	...	...	3	37	...	1	...	...	1	13	50
40	...	5	...	...	...	...	69	...	...	3	...	...	33	105
45	...	9	...	...	...	1	31	...	...	16	...	...	13	60
50	..	17	...	...	...	...	10	...	...	7	...	..	6	23
55	...	12	...	...	...	1	5	...	...	2	...	...	1	8
60	...	9	...	...	...	...	1	...	...	4	...	...	...	5
65	...	1	...	...	...	...	...	...	...	...	...	...	...	...
70	...	2	...	...	...	...	...	...	...	2	...	...	...	2
75	...	1												
80	...	1												
85														
	6	73	6	44	13	77	256	450	378	34	46	48	248	538

30th *April* 1858.

0	...	...	7	...	4	...	...	148	135	...	26	18	...	...
5	...	...	8	...	7	1	...	131	98	...	36	22	..	...
10	...	...	8	7	11	8	...	94	76	...	24	32	...	...
15	...	...	7	14	17	11	...	56	53	...	25	20	14	14
20	1	...	...	1	9	7	13	2	7	...	2	11	102	115
25	4	...	...	...	2	15	41	...	1	...	...	4	61	102
30	6	3	...	...	...	6	67	...	1	...	...	1	38	105
35	8	7	...	...	...	7	43	...	...	...	...	2	14	57
40	3	6	...	...	...	2	34	...	...	...	...	2	9	43
45	2	6	...	...	...	...	52	...	.	17	...	...	22	91
50	3	10	...	...	...	1	16	...	...	24	...	...	7	47
55	1	18	...	...	...	...	4	...	...	12	...	...	2	18
60	...	9	...	...	...	1	...	...	...	5	...	...	...	5
65	1	8	...	...	...	...	...	...	...	4	...	...	...	4
70	...	1	...	...	...	...	...	...	...	...	...	...	...	...
75	...	1	...	...	...	...	...	...	...	2	...	...	...	2
80	...	1												
85														
	29	70	30	22	50	59	270	431	371	64	113	112	269	603
	99		52		109									

Table No. 16.—(*Continued.*)
30*th April* 1853.

Ages.	Pensioners.						Active.			Retired.			Active and Retired Bachelors and Widowers.	Total Members.
	Widows.		Sons.		Daughters.									
	New Rules.		New Rules.		New Rules.		Married Members.	Sons.	Daughters.	Married Members.	Sons.	Daughters.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
0	...	...	10	...	8	...	...	162	171	...	32	27		
5	...	...	21	...	14	...	...	107	107	...	45	32		
10	...	...	17	...	12	1	...	82	71	..	66	44		
15	...	...	14	5	18	8	...	40	33	...	60	63		
20	4	...	4	...	16	8	17	3	14	...	7	38	99	116
25	8	...	...	...	3	6	57	...	1	2	...	12	89	148
30	7	...	...	...	2	12	63	...	...	...	...	3	21	84
35	7	5	...	...	...	5	68	...	...	3	...	2	24	95
40	16	6	...	...	...	7	42	...	...	2	...	2	10	54
45	4	5	...	...	...	2	18	...	...	9	...	2	5	32
50	3	7	...	...	...	...	20	...	...	48	...	...	17	85
55	3	9	...	...	...	1	3	...	...	29	...	...	8	40
60	2	15	...	...	...	...	...	...	...	15	...	...	2	17
65	...	9	...	...	...	...	...	...	...	4	...	...	1	5
70	1	6	...	...	...	...	...	...	...	2	...	...	1	3
75	...	1												
80	...	1												
85														
	55	64	66	5	73	50	288	394	397	114	210	225	277	679
	119		71		123									

TABLES

OF

MONEY VALUE DEDUCED FROM ORIGINAL DATA.

INDEX TO TABLES

Tables of Money Value deduced from Original Data.

Tables.

17 (A).—Table of mortality deduced from the experience of the Bengal Civil Service, 1801 to 1858 inclusive, (active and retired male life.)

18 (A).—D and N Columns and value of Life Annuity at 5 per cent. deduced from Table No. 17 (A).

19.—Value at 5 per cent. of contingent reversionary pensions to wives whose husbands are living, payable quarterly in advance till death, but reducible to one-half on re-marriage, deduced from Table No. 17 (A.) and Mr. Davies' Table IX. (The husband being 7 years older than the wife).

20.—Sons' Benefits.—Table showing the value of a temporary annuity at 5 per cent. interest on the lives of Sons from ages 0 to 21, also the value of deferred temporary annuities till age 21, commencing at ages 5, 8, and 11, and the total value of annuities payable quarterly in advance to fatherless sons deduced at the above rate of interest from Mr. Davies' Table of Mortality, No. III.

21.—Daughters' Benefits.—Table showing the value at 5 per cent. interest of an annuity payable quarterly in advance till marriage or death, also the value of similar deferred annuities, commencing at ages 5, 8, and 11, and the total value of benefits to fatherless daughters, exclusive of the marriage portion of £300.

22.—Value at 5 per cent. at every age from birth to 60 of a marriage portion of £300 payable at marriage deduced from Mr. Davies' Table IV.

23.—Sons' Contingent Benefits.—Value at 5 per cent. of contingent reversionary pensions to the sons of living members, payable quarterly in advance till the age of 21, in the event of their becoming fatherless before that age, (pensions £30 per annum under the age of 5 years, £60 from 5 to 7, £80 from 8 to 11, and £100 per annum from 11 to 21).

24.—Daughters' Contingent Benefits.—Value at 5 per cent. of contingent reversionary benefits to the daughters of living members in the event of their becoming fatherless whilst unmarried. (Pensions £30 per annum under the age of 5 years, £60 per annum from 5 to 8, £80 per annum from 8 to 11, and £100 per annum from 11, payable quarterly till marriage or death, and a marriage portion of £300).

25 (B).—Bachelors.—Probability of marrying or dying in a year, also the number at each age 20 to 60, surviving unmarried out of 10,000 entering at 20, the rate of marriage being deduced from the experience of the Bengal Civil Fund for 13 years, 1850 to 1862, inclusive, and the rate of mortality from No. 17 (A). Bengal Civil Service 1801 to 1858.

26 (B).—Bachelors.—Values at 5 per cent. at any age of bachelors of a contingent pension of £300 to their wives, if they should marry thereafter, the pension being reduced to one-half, if the widow re-marries.

27 (B).—Bachelors.—Value at 5 per cent. at every age of bachelors, of childrens' contingent benefits (as shown in Tables No. 23 for sons and No. 24 for daughters), on the chance of future marriage of bachelors, assuming 4·5 children to each family, and that the average date of birth is 5 years after marriage.

28.—Bengal Civil Fund.—Total amount of ordinary and additional subscriptions, and average of ditto, payable by members living at each age, 30th April 1863, distinguishing bachelors, married members, widowers, and whether active or retired.

29.—Showing the proportion of members of each Class, active and retired, who would be living according to the survivors in Table No. 17 (A.) at each decennial age, the total subscriptions that would be paid by them, and the average for each, deduced from the averages of living members, 30th April 1863.

30.—Value of subscriptions increasing with age including bachelors, married, and widowers.—Ordinary subscriptions and additional for wives and children, active and retired, computed at 5 per cent. interest (bachelors 2½ per cent. on income, married 2 per cent. additional for wife; ⅛ per cent. for sons and ¼ for daughters.)

31 (M).—Bengal Civil Fund.—(Married members only) showing the number who die or become widowers or survive as married men, at each age, out of 10,000 at age 20.

32 (M).—Bengal Civil Fund.—Married members.—D and N columns and value of annuity at 5 per cent. at every age during the married life of a member (deduced from Table No. 31 M.)

Table No. 17 (A.)

Table of Mortality deduced from the Experience of the Bengal Civil Service 1801 *to* 1858, *inclusive* (*Active and Retired Male Life.*)

Age m	Log. of the probability of dying in a year.	Probability of dying in a year.	Probability of living a year.	Log. of the probability of living a year.	Log. of living.	Living.	Dying.	Living in the middle of the year or at age $m+\frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
15	$\bar{2}$·23190	·0171	·9829	$\bar{1}$·99251	4·00000	10000	171	9914·5
16	·23288	·0171	·9829	·99251	3·99251	9829	168	9745·
17	·23386	·0171	·9829	·99251	·98502	9661	165	9578·5
18	·23484	·0172	·9828	·99247	·97753	9496	163	9414·5
19	·23582	·0172	·9828	·99247	·97000	9333	161	9252·5
20	·23679	·0173	·9827	·99242	·96247	9172	159	9092·5
21	·23777	·0173	·9827	·99242	·95489	9013	156	8935·
22	·23875	·0173	·9827	·99242	·94731	8857	153	8780·5
23	·23973	·0174	·9826	·99238	·93973	8704	151	8628·5
24	·24071	·0174	·9826	·99238	·93211	8553	149	8478·5
25	·24169	·0174	·9826	·99238	·92449	8404	146	8331·
26	·24267	·0175	·9825	·99233	·91687	8258	145	8185·5
27	·24365	·0175	·9825	·99233	·90920	8113	142	8042·
28	·24463	·0176	·9824	·99229	·90153	7971	140	7901·
29	·24561	·0176	·9824	·99229	·89382	7831	138	7762·
30	·24657	·0176	·9824	·99229	·88611	7693	135	7625·5
31	·25449	·0180	·9820	·99211	·87840	7558	136	7490·
32	·26211	·0183	·9817	·99198	·87051	7422	136	7354·
33	·27033	·0186	·9814	·99185	·86249	7286	136	7218·
34	·27825	·0190	·9810	·99167	·85434	7150	135	7082·5
35	·28617	·0193	·9807	·99154	·84601	7015	136	6947·
36	·29409	·0197	·9803	·99136	·83755	6879	135	6811·5
37	·30201	·0200	·9800	·99123	·82891	6744	135	6676·5
38	·30993	·0204	·9796	·99105	·82014	6609	135	6541·5
39	·31785	·0208	·9792	·99087	·81119	6474	134	6407·
40	·32579	·0212	·9788	·99069	·80206	6340	135	6272·5
41	·32456	·0211	·9789	·99074	·79275	6205	131	6139·5
42	·32334	·0211	·9789	·99074	·78348	6074	128	6010·
43	·32212	·0210	·9790	·99078	·77423	5946	125	5883·5
44	·32090	·0209	·9791	·99083	·76501	5821	121	5760 5
45	·31967	·0209	·9791	·99083	·75584	5700	120	5640·
46	·31845	·0208	·9792	·99087	·74667	5580	116	5522·
47	·31723	·0208	·9792	·99087	·73754	5464	113	5107·5
48	·31600	·0207	·9793	·99062	·72841	5351	111	5295·5
49	·31478	·0206	·9794	·99096	·71933	5240	108	5186·
50	·31356	·0206	·9794	·99096	·71029	5132	106	5079
51	·33386	·0216	·9784	·99052	·70125	5026	108	4972·
52	·35416	·0226	·9774	·99007	·69177	4918	111	4862·5

Table No. 17 (A.)—(Continued.).

Table of Mortality deduced from the Experience of the Bengal Civil Service 1801 *to* 1858, *inclusive (Active and Retired Male Life.)*

Age *m.*	Log. of the probability of dying in a year.	Probability of dying in a year.	Probability of living a year.	Log. of the probability of living a year.	Log. of living.	Living.	Dying.	Living in middle of the year or at age $m+\frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
53	$\bar{2}$·37446	·0237	·9763	$\bar{1}$·98958	3·68184	4807	114	4750·
54	·39476	·0248	·9752	·98909	·67142	4693	117	4634·5
55	·41506	·0260	·9740	·98856	·66051	4576	119	4516·5
56	·43536	·0273	·9727	·98798	·64907	4457	121	4396·5
57	·45566	·0286	·9714	·98740	·63705	4336	124	4274·
58	·47596	·0299	·9701	·98682	·62445	4212	126	4151·
59	·49626	·0314	·9686	·98614	·61127	4086	129	4021·5
60	·51656	·0329	·9671	·98547	·59741	3957	130	3892·
61	·54322	·0349	·9651	·98457	·58288	3827	133	3760·5
62	·56988	·0371	·9629	·98358	·56745	3694	137	3625·5
63	·59654	·0395	·9605	·98250	·55103	3557	141	3486·5
64	·62320	·0420	·9580	·98137	·53353	3416	143	3344·5
65	·64987	·0447	·9553	·98014	·51490	3273	147	3199·5
66	·67653	·0475	·9525	·97886	·49504	3126	148	3052·
67	·70319	·0505	·9495	·97749	·47390	2978	151	2902·5
68	·72985	·0537	·9463	·97603	·45139	2827	151	2751·5
69	·75651	·0571	·9429	·97447	·42742	2676	153	2599·5
70	·78318	·0607	·9393	·97280	·40189	2523	153	2446 5
71	·83261	·0680	·9320	·96942	·37469	2370	161	2289·5
72	·88205	·0762	·9238	·96558	·34411	2209	169	2124·5
73	·93148	·0854	·9146	·96123	·30969	2040	174	1953·
74	·98092	·0957	·9043	·95631	·27092	1866	179	1776·5
75	$\bar{1}$·03035	·1072	·8928	·95075	·22723	1687	180	1597·
76	·07979	·1202	·8798	·94438	·17798	1507	182	1416·
77	·12922	·1347	·8653	·93717	·12236	1325	178	1236·
78	·17866	·1509	·8491	·92896	·05953	1147	173	1060·5
79	·22810	·1691	·8309	·91955	2·98849	974	165	891·5
80	·27754	·1895	·8105	·90875	·90804	809	153	732·5
81	·34978	·2238	·7762	·88997	·81679	656	147	582·5
82	·42203	·2643	·7357	·86670	·70676	509	134	442·
83	·49427	·3121	·6879	·83753	·57346	375	117	316·5
84	·57652	·3686	·6314	·80030	·41099	258	95	210·5
85	·63876	·4353	·5647	·75182	·21129	163	71	127·5
86	·71101	·5141	·4859	·68655	1·96311	92	47	68·5
87	·78325	·6071	·3929	·59428	·64966	45	27	31·5
88	·85550	·7170	·2830	·45179	·24394	18	13	11·5
89	·92775	·8467	·1533	·18554	0·69573	5	4	3·0
90	0·00000	.....	.....	.....	·88127	1	1	·5

Table No. 18 (A.)

D. and N. Columns and Value of Life Annuity, at 5 per cent. deduced from Table No. 17 (A.)

Age. x.	$log.\ D_x = log.\ l_x.\ v^x$	D_x.	$N_x = D_{x+1} + D_{x+2} + \ldots$	$log.\ N_x$.	$log.\ \frac{N_x}{D_x}$	Value of Life Annuity 5 per cent.
	(1)	(2)	(3)	(4)	(5)	(6)
15	3·68216	4810·	67887	4·83179	1·14963	14·113
16	·65348	4503·	63384	·80198	·14850	14·077
17	·62480	4215·	59169	·77209	·14729	14·038
18	·59612	3946·	55223	·74212	·14600	13·996
19	·56740	3693·	51530	·71206	·14466	13·953
20	·53868	3457·	48073	·68190	·14322	13·907
21	·50991	3235·	44838	·65165	·14174	13·859
22	·48115	3028·	41810	·62128	·14013	13·808
23	·45238	2834·	38976	·59079	·13841	13·753
24	·42357	2652·	36321	·56020	·13663	13·697
25	·39476	2482·	33842	·52946	·13470	13·636
26	·36595	2322·	31520	·49859	·13264	13·572
27	·33709	2173·	29341	·46757	·13048	13·505
28	·30823	2033·	27311	·43638	·12815	13·432
29	·27933	1903·	25411	·40502	·12569	13·356
30	·25043	1780·	23631	·37348	·12305	13·275
31	·22153	1665·	21966	·34175	·12022	13·189
32	·19245	1558·	20407	·30980	·11735	13·102
33	·16324	1456·	18952	·27766	·11442	13·014
34	·13390	1361·	17591	·24529	·11139	12·924
35	·10438	1272·	16319	·21269	·10831	12·832
36	·07474	1188·	15131	·17987	·10513	12·739
37	·04491	1109·	14022	·14681	·10190	12·644
38	·01495	1035·	12987	·11351	·09856	12·548
39	2·98481	965·6	12021	·07994	·09513	12·449
40	·95449	900·5	11120	·04612	·09163	12·349
41	·92399	839·4	10280	·01203	·08804	12·247
42	·89354	782·6	9498·4	3·97765	·08411	12·137
43	·86309	729·6	8768·8	·94294	·07985	12·018
44	·83268	680·3	8088·5	·90787	·07519	11·890
45	·80232	634·3	7454·2	·87240	·07008	11·751
46	·77196	591·5	6862·7	·83649	·06453	11·602
47	·74164	551·6	6311·1	·80011	·05847	11·441
48	·71132	514·4	5796·7	·76318	·05186	11·268
49	·68105	479 8	5316·9	·72566	·04461	11·082
50	·65083	447·5	4869·4	·68748	·03665	10·881
51	·62060	417·4	4452·	·64856	·02796	10·665
52	·58993	389·	4063·	·60885	·01892	10·445
53	·55881	362·1	3700·9	·56831	·00950	10·221

Table No. 18 (A.)—(Continued.)

D. and N. Columns and Value of Life Annuity, at 5 per cent. deduced from Table No. 17 (A.)

Age. x.	$log.\ D_x. = log.\ l_x.\ v^x$	D_x.	$N_x. = D_{x+1} + D_{x+2} + \ldots$	$log.\ N_x$.	$log.\ \frac{N_x.}{D_x.}$	Value of Life Annuity 5 per cent.
	(1)	(2)	(3)	(4)	(5)	(6)
54	·52720	336·7	3364·2	·52689	0·99969	9·993
55	·49510	312·7	3051·5	·48451	·98941	9·759
56	·46247	290·	2761·5	·44115	·97868	9·521
57	·42926	268·7	2492·8	·39669	·96743	9·277
58	·39547	248·6	2244·2	·35106	·95559	9·028
59	·36110	229·7	2014·5	·30417	·94307	8·771
60	·32605	211·9	1802·6	·25590	·92985	8·508
61	·29033	195·1	1607·5	·20616	·91583	8·238
62	·25371	179·4	1428·1	·15476	·90105	7·963
63	·21610	164·5	1263·6	·10161	·88551	7·683
64	·17742	150·5	1113·1	·04654	·86912	7·398
65	·13760	137·3	975·81	2·98936	·85176	7·108
66	·09655	124·9	850·91	·92988	·83333	6·813
67	·05422	113·3	737·61	·86783	·81361	6·510
68	·01052	102·5	635·11	·80285	·79233	6·199
69	1·96536	92·33	542·78	·73462	·76926	5·878
70	·91864	82·92	459·86	·66262	·74399	5·546
71	·87025	74·17	385·69	·58624	·71599	5·200
72	·81848	65·84	319·85	·50495	·68647	4·858
73	·76287	57·93	261·92	·41817	·65530	4·522
74	·70291	50·46	211·46	·32523	·62232	4·191
75	·63803	43·45	168·01	·22534	·58731	3·866
76	·56759	36·95	131·06	·11747	·54988	3·547
77	·49078	30·96	100·10	·00043	·50965	3·233
78	·40676	25·51	74·59	1·87268	·46592	2·924
79	·31454	20·53	53·96	·73207	·41753	2·615
80	·21290	16·33	37·63	·57553	·36263	2·305
81	·10046	12·60	25·03	·39846	·29800	1·986
82	0·96924	9·316	15·71	·19618	·22694	1·686
83	·81475	6·528	9·186	0·96313	·14838	1·407
84	·62109	4·277	4·909	·69099	·05990	1·148
85	·41020	2·572	2·337	·36866	$\bar{1}$·95846	·909
86	·14083	1·383	·9535	$\bar{1}$·97932	·83849	·689
87	$\bar{1}$·80619	·6400	·3135	·49624	·69005	·490
88	·37928	·2395	·07397	$\bar{2}$·86906	·48978	·309
89	$\bar{2}$·80988	·06455	·009424	$\bar{3}$·97424	·16436	·146
90	$\bar{3}$·97423	·009424	·009400	.....	.....	.....

Table No. 19.

Value at 5 per cent. of Contingent Reversionary Pensions to Wives, whose Husbands are living, payable quarterly in advance till death but reducible to one-half on re-marriage deduced from Table No. 17 (A), and Mr: Davis' Table IX. (The Husband being 7 years older than the Wife.)

Ages. $x+7$, x.		*log.* D_x (Davies' Table IX.)	*log.* D_x + *log.* l_{x+7} (Table No. 17 (A.))	$\frac{D_{x+7,\,x}}{1000}$.	$P_{x+\frac{1}{2}}$ (value of Pension of £300.)	*log.* of ditto.	*log.* of $P_{x+\frac{1}{2}} D_x \cdot d_{x+7}$.	Natural number of ditto.	Sum of Col. 7 from age x inclusive.	*log.* of ditto.	Col 9 *minus* Col. 2 = *kg* of value of Contingent Reversionary Pension.	Value of Contingent Reversionary Pension to Wife.	Value of ditto at mean ages $(x+7, x)+\frac{1}{2}$.
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
20	13	3·62567	7·58814	3873·8	4028·4	3·60513	9·43220	2705204	39047541	10·59159	3·00345	1008·0	1008·4
21	14	·60175	·55664	3602·8	3953·1	59694	·39181	2464961	36342367	·56041	·00377	1008·7	1009·9
22	15	·57780	·52511	3350·5	3888 9	·58983	·35232	2250712	33877376	·52991	·00480	1011·1	1013·2
23	16	·55379	·49352	3115·4	3835·2	·58379	·31656	2072812	31626664	·50005	·00653	1015·3	1018·1
24	17	·52958	·46169	2895·3	3793·2	·57901	·28178	1913286	29533852	·47061	·00892	1020·8	1024·3
25	18	·50514	·42963	2689·2	3771·0	·57646	·24595	1761773	27640556	·44155	·01192	1027·8	1032·2
26	19	·48050	·39737	2496·7	3778·2	·57728	·21915	1656342	25878793	·41294	·01557	1036·5	1040·9
27	20	·45577	·36497	2317·2	3810·6	·58099	·18905	1545432	24222451	·38422	·01925	1045·3	1050·1
28	21	·43090	·33243	2150·0	3853·8	·58589	·16292	1455191	22677019	·35559	·02316	1054·8	1059 5
29	22	·40593	·29975	1994·1	3893·4	·59033	·13614	1368170	21221828	·32678	·02703	1064·2	1068·9
30	23	·38093	·26704	1849 4	3931·8	·59459	·10585	1275998	19853858	·29784	·03080	1073·5	1078·4
31	24	·35583	·23423	1714·9	3969·0	·59868	·08805	1224757	18577660	·26899	·03476	1083·3	1087·7
32	25	·33060	·20111	1588·9	4002·0	·60228	·06642	1165252	17352903	·23937	·03826	1092·1	1096·0
33	26	·30533	·16782	1471·7	4031·7	·60549	·04436	1107541	16187651	·20919	·04137	1099·9	1103·4
34	27	·28001	·13435	1362·5	4058·4	·60835	·01869	1043975	15080110	·17840	·04405	1106·8	1110·2
35	28	·25452	·10053	1260·5	4081·8	·61085	8·99891	997493	14036135	·14725	·04672	1113·6	1116·1
36	29	·22899	·06654	1165·6	4099·8	·61276	·97208	937735	13038642	·11523	·04869	1118·6	1121·0

37	30	·20336	·03227	10771·0	4112·1	·61406	·94775	886646	12100907	·08282	·05055	1123·4	1125·3
38	31	·17768	6·99782	9949·9	4120·2	·61492	·92293	837394	11214261	·04977	·05195	1127·1	1128·5
39	32	·15189	·96308	9185·0	4125·6	·61549	·89448	784296	10376867	·01607	·05299	1129·8	1131·0
40	33	·12600	·92806	8473·4	4127·1	·61565	·87198	744698	9592971	9·98194	·05388	1132·1	1132·4
41	34	·10003	·89278	7812·3	4126·5	·61558	·83288	680581	8847473	·94684	·05406	1132·6	1133·3
42	35	·07401	·85750	7202·8	4122·3	·61514	·79636	625691	8167292	·91208	·05458	1133·9	1134·8
43	36	·04798	·82221	6640·6	4115·4	·61441	·75930	574513	7541601	·87746	·05525	1135·7	1137·0
44	37	·02177	·78678	6120·4	4104·9	·61330	·71786	522228	6967088	·84305	·05627	1138·3	1140·4
45	38	2·99533	·75137	5641·2	4090·8	·61181	·68652	485870	6444860	·80921	·05784	1142·5	1144·4
46	39	·96922	·71589	5198·6	4072·2	·60983	·64351	440058	5958990	·77517	·05928	1146·3	1149·1
47	40	·94293	·68047	4791·5	4048·8	·60733	·60334	401181	5518932	·74185	·06138	1151·8	1155·5
48	41	·91650	·64491	4414·8	4020·6	·60429	·56611	368222	5117751	·70908	·06417	1159·2	1163·4
49	42	·89001	·60934	4067·6	3981·6	·60006	·52349	333803	4749529	·67665	·06731	1167·6	1173·0
50	43	·86345	·57374	3747·5	3953·1	·59694	·48570	305985	4415726	·64500	·07126	1178·3	1184·5
51	44	·83675	·53800	3451·4	3914·1	·59263	·46280	290269	4109741	·61381	·07581	1190·7	1196·9
52	45	·80998	·50175	3175·0	3872·1	·58795	·44325	277492	3819472	·58200	·08025	1203·0	1208·7
53	46	·78307	·46491	2916·8	3827·1	·58287	·42284	264753	3541980	·54925	·08434	1214·3	1219·5
54	47	·75607	·42749	2676·0	3780·3	·57753	·40179	252226	3277227	·51551	·08802	1224·7	1229·5
55	48	·72885	·38936	2451·1	3732·6	·57201	·37641	237909	3025001	·48073	·09137	1234·2	1238·7
56	49	·70153	·35060	2241·8	3684·6	·56639	·35071	224238	2787092	·44515	·09455	1243·2	1247·8
57	50	·67397	·31102	2046·5	3638·1	·56087	·32826	212941	2562854	·40872	·09770	1252·3	1256·3
58	51	·64616	·27061	1864·7	3589·5	·55503	·30156	200244	2349913	·37105	·10044	1260·2	1263·9
59	52	·61815	·22942	1696·0	3537·9	·54875	·27749	189448	2149669	·33237	·10295	1267·5	1270·4
60	53	·58995	·18736	1539·4	3482·7	·54192	·24581	176121	1960221	·29230	·10494	1273·3	1276·7
61	54	·56130	·14418	1393·7	3425·1	·53467	·21982	165890	1784100	·25142	·10724	1280·1	1283·0
62	55	·53242	·09987	1258·5	3363·6	·52680	·19594	157015	1618210	·20903	·10916	1285·8	1288·0
63	56	·50307	·05410	1132·7	3297·6	·51820	·17049	148078	1461195	·16471	·11061	1290·1	1291·6
64	57	·47318	·00671	1015·6	3228·6	·50901	·13753	137256	1313117	·11830	·11159	1293·0	1294·7
65	58	·44275	5·95768	907·11	3157·2	·49930	·10937	128638	1175861	·07036	·11270	1296·3	1297·0
66	59	·41184	·90688	807·01	3082·2	·48886	·07096	117750	1047223	·02004	·11316	1297·7	1299·0
67	60	·38030	·85420	714·83	3004·8	·47782	·03710	108918	929473	8·96824	·11404	1300·3	1301·0
68	61	·34823	·79962	630·41	2923·5	·46590	7·99311	98426	820555	·91411	·11449	1301·6	1303·5
69	62	·31547	·74289	553·21	2840·7	·45343	·95359	89865	722129	·85861	·11572	1305·3	1307·3
70	63	·28196	·68385	482·89	2756·4	·44034	·90699	80722	632264	·80090	·11705	1309·3	1312·9
71	64	·24746	·62215	418·94	2671·8	·42680	·88109	76048	551542	·74158	·11943	1316·5	1318·9
72	65	·21208	·55619	359·91	2586·3	·41268	·85265	71228	475494	·67715	·12096	1321·2	1322·1
73	66	·17542	·48511	305·57	2501·4	·39818	·81415	65185	404266	·60667	·12156	1322·9	1323·3

Table No. 19.—(Continued.)

Ages. $x+7$, x.	*log.* D_x (Davies' Table IX.)	*log.* D_x + *log.* l_{x+7} (Table No. 17 (A.))	$\frac{D_{x+7,\,x}}{1000}$.	$P_{x+\frac{1}{2}}$, (value of Pension of £300.)	*log.* of ditto.	*log.* of $P_{x+\frac{1}{2}} D_x \cdot d_{x+7}$.	Natural number of ditto.	Sum of Col. 7 from age x inclusive.	*log.* of ditto.	Col. 9 *minus* Col. 2 = *log.* of value of Contingent Reversionary Pension.	Value of Contingent Reversionary Pension to Wife.	Value of ditto at mean ages $(x+7, x)+\frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
74 67	·13758	5·40850	256·15	2415·9	3·38308	7·77351	59362	339081	8·53030	3·12180	1323·7	1322·8
75 68	·09833	·32556	211·62	2330·4	·36743	·72103	52605	279719	·44672	·12116	1321·8	1320·8
76 69	·05778	·23576	172·09	2244·9	·35120	·66905	46671	227114	·35624	·12048	1319·7	1316·7
77 70	·01549	·13785	137·36	2159·7	·33439	·60030	39838	180443	·25634	·11849	1313·7	1311·6
78 71	1·97138	·03091	107·38	2075·4	·31710	·52653	33615	140605	·14800	·11709	1309·5	1307·0
79 72	·92539	4·91388	82·012	2003·1	·30170	·44457	27834	106990	·02934	·11546	1304·5	1308·7
80 73	·87224	·78028	60·295	1922·4	·28384	·34077	21916	79156·	7·89848	·11820	1312·8	1306·9
81 74	·82662	·64341	43·996	1830·6	·26259	·25653	18052	57240·	·75770	·11429	1301·0	1299·0
82 75	·77347	·48023	30·216	1750·8	·24324	·14381	13925	39188·	·59315	·11292	1296·9	1295·0
83 76	·71738	·29084	19·536	1672·5	·22337	·00894	10208	25263·	·40248	·11164	1293·1	1288·4
84 77	·65824	·06923	11·728	1595·4	·20287	6·83883	6899·7	15055·	·17768	·10845	1283·7	1277·9
85 78	·59569	3·80698	6·4118	1520·7	·18204	·62899	4255·9	8155·4	6·91145	·10447	1272·0	1263·4
86 79	·52935	·49246	3·1079	1448·4	·16089	·36234	2303·2	3899·5	·59101	·09855	1254·7	1249·3
87 80	·45867	·10833	1·2833	1377·6	·13912	·02915	1069·4	1596·3	·20311	·09478	1243·9	1242·5
88 81	·38403	2·62797	·42459	1308·9	·11691	5·61488	411·98	526·94	·72176	·09379	1241·1	1195·4
89 82	·30428	·00001	·10000	1242·0	·09412	·00046	100·11	114·96	·06055	·06054	1149·6	1163·1
90 83	·21992	1·10119	·012624	1176·6	·07063	4·17182	14·853	14·853	5·17181	·07062	1176·6	588·3

Table No. 20.

Sons' Benefits.—Value of a temporary Annuity at 5 per cent. on the Lives of Sons from age 0 to 21; also the value of a Deferred Temporary Annuity till age 21, commencing at ages 5, 8, and 11 and the total value of annuities payable quarterly in advance to fatherless sons, deduced at the above rate of interest from Mr. Davies' Table of Mortality III.

Age x.	Value of Annuity till age 21.	Value of Annuity from age 5 till 21.	Value of Annuity from age 8 till 21.	Value of Annuity from age 11 till 21.	Value of £30 per annum till age 21.	Value of £30 per annum from age 5 till 21.	Value of £20 per annum from age 8 till 21.	Value of £20 per annum from age 11 till 21.	Total Value of £100 per annum till 21.	Ditto at age $x+\frac{1}{2}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
0	11·078	7·031	5·195	3·646	332·34	210·93	103·90	72·92	720·09	747·60
1	11·345	7·883	5·825	4·088	340·35	236·49	116·50	81·76	775·10	794·14
2	11·309	8·593	6·349	4·457	339·27	257·79	126·98	89·14	813·18	830·59
3	11·181	9·294	6·867	4·820	335·43	278·82	137·24	96·40	847·99	862·62
4	10·935	9·958	7·358	5·165	328·05	298·74	147·16	103·30	877·25	890·44
5	10·612		7·841	5·504	318·34	318·36	156·82	110·08	903·62	900·45
6	10·231		8·326	5·845	306·93	306·93	166·52	116·90	897·28	892·65
7	9·798		8·818	6·189	293·94	293·94	176·36	123·78	888·02	882·84
8	9·333			6·551	279·99	279·99	186·66	131·02	877·66	861·51
9	8·835			6·928	265·05	265·05	176·70	138·56	845·36	827·98
10	8·302			7·322	249·06	249·06	166·04	146·44	810·60	792·10
11	7·736				232·08	232·08	154·72	154·72	773·60	743·65
12	7·137				214·11	214·11	142·74	142·74	713·70	682·10
13	6·505				195·15	195·15	130·10	130·10	650·50	617·10
14	5·837				175·11	175·11	116·74	116·74	583·70	548·50
15	5·133				153·99	153·99	102·66	102·66	513·30	476·25
16	4·392				131·76	131·76	87·84	87·84	439·20	399·90
17	3·606				108·18	108·18	72·12	72·12	360·60	319·20
18	2·778				83·34	83·34	55·56	55·56	277·80	234·05
19	1·903				57·09	57·09	38·06	38·06	190·30	144·10
20	·979				29·37	29·37	19·58	19·58	97·90	48·95

Table No. 21.

Daughters' Benefits—Value at 5 per cent. of an Annuity, payable quarterly in advance till Marriage or Death; also the value of similar deferred Annuities commencing at ages 5, 8, and 11, and the total values of Benefits to Fatherless Daughters, exclusive of the Marriage Portion of £300.

Age x.	Value of Annuity till Marriage or Death.	Value of Annuity till Marriage or Death to commence at			Value of £30 per annum till Marriage or Death.	Value of Annuity till Marriage or Death.			Total value of £100 per annum.	Ditto at age $x + \frac{1}{2}$
		Age 5.	Age 8.	Age 11		£30 per annum from age 5.	£20 per annum from age 8.	£20 per annum from age 11.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					£	£	£	£	£	£
0	12·641	8·601	6·769	5·224	379·23	258·03	135·38	104·48	877·12	914·12
1	13·097	9·643	7·589	5·857	392·91	289·29	151·78	117·14	951·12	979·28
2	13·252	10·336	8·291	6·399	397·56	316·08	165·82	127·98	1007·44	1032·73
3	13·281	11·395	8·967	6·920	398·43	341·85	179·34	138·40	1058·02	1080·20
4	13·186	12·210	9·609	7·416	395·58	366·30	192·18	148·32	1102·38	1122·94
5	13·011		10·240	7·902	390·33	390·33	204·80	158·04	1143·50	1147·75
6	12·778		10·874	8·392	383·34	383·34	217·48	167·84	1152·00	1154·83
7	12·494		11·515	8·886	374·82	374·82	230·30	177·72	1157·66	1160·41
8	12·188			9·406	365·64	365·64	243·76	188·12	1163·16	1155·21
9	11·854			9·947	355·62	355·62	237·08	198·94	1147·26	1138·48
10	11·493			10·513	344·79	344·79	229·86	210·26	1129·70	1120·20

Table No. 21.—(Continued.)

Age x.	Value of Annuity till Marriage or Death.	Value of £100 per annum till Marriage or Death.	Do. at age $x + \frac{1}{2}$.	Age x.	Value of Annuity till Marriage or Death.	Value of £100 per annum till Marriage or Death.	Do. at age $x + \frac{1}{2}$.
	(1)	(9)	(10)		(1)	(9)	(10)
		£	£			£	£
11	11·107	1110·7	1090·3	20	8·975	897·5	915·8
12	10·698	1069·8	1048·3	21	9·341	934·1	952·3
13	10·267	1026·7	1004·0	22	9·704	970·4	986·9
14	9·813	981·3	962·3	23	10·033	1003·3	1020·5
15	9·432	943·2	927·8	24	10·377	1037·7	1053·5
16	9·123	912·3	900·6	25	10·692	1069·2	1084·0
17	8·888	888·8	880·9	26	10·988	1098·8	1112·5
18	8·730	873·0	874·1	27	11·261	1126·1	1139·2
19	8·751	875·1	886·3	28	11·523	1152·3	1163·8

Table No. 21.—(Continued.)

Age x.	Value of Annuity till Marriage or Death	Value of £100 per annum till Marriage or Death.	Do. at age $x + \frac{1}{2}$.	Age x.	Value of Annuity till Marriage or Death.	Value of £100 per annum till Marriage or Death	Do. at age $x + \frac{1}{2}$.
	(1)	(9)	(10)		(1)	(9)	(10)
		£	£			£	£
29	11·753	1175·3	1185·0	64	9·048	904·8	890·6
30	11·947	1194·7	1202·9	65	8·763	876·3	862·2
31	12·111	1211·1	1218·4	66	8·480	848·0	833·8
32	12·256	1225·6	1231·7	67	8·195	819·5	805·3
33	12·378	1237·8	1243·4	68	7·911	791·1	776·8
34	12·489	1248·9	1253·7	69	7·625	762·5	748·3
35	12·584	1258·4	1262·4	70	7·341	734·1	720·0
36	12·663	1266·3	1269·5	71	7·058	705·8	691·8
37	12·726	1272·6	1274·7	72	6·777	677·7	667·8
38	12·768	1276·8	1277·9	73	6·578	657·8	640·8
39	12·790	1279·0	1278·8	74	6·237	623·7	610·3
40	12·786	1278·6	1277·3	75	5·968	596·8	583·6
41	12·759	1275·9	1273·3	76	5·704	570·4	557·5
42	12·706	1270·6	1267·2	77	5·445	544·5	531·9
43	12·637	1263·7	1259·5	78	5·192	519·2	506·9
44	12·552	1255·2	1250·2	79	4·946	494·6	482·8
45	12·452	1245·2	1239·4	80	4·709	470·9	459·2
46	12·336	1233·6	1227·4	81	4·475	447·5	436·3
47	12·211	1221·1	1214·9	82	4·251	425·1	414·0
48	12·087	1208·7	1202·7	83	4·029	402·9	392·2
49	11·967	1196·7	1191·2	84	3·815	381·5	370·8
50	11·856	1185·6	1180·7	85	3·601	360·1	349·8
51	11·757	1175·7	1170·0	86	3·395	339·5	329·1
52	11·642	1164·2	1157·8	87	3·187	318·7	308·0
53	11·513	1151·3	1144·3	88	2·973	297·3	286·4
54	11·372	1137·2	1129·4	89	2·755	275·5	263·4
55	11·215	1121·5	1112·5	90	2·512	251·2	237·6
56	11·035	1103·5	1093·4	91	2·239	223·9	208·9
57	10·833	1083·3	1072·6	92	1·939	193·9	178·1
58	10·618	1061·8	1050·2	93	1·623	162·3	150·1
59	10·386	1038·6	1026·5	94	1·379	137·9	126·4
60	10·144	1014·4	1001·4	95	1·149	114·9	100·6
61	9·883	988·3	974·6	96	·863	86·3	74·4
62	9·608	960·8	946·9	97	·625	62·5	31·3
63	9·329	932·9	918·9				

Table No. 22.

Value, at 5 per cent., at every age from birth to 60, of a Marriage portion of £300, payable at Marriage (deduced from Mr. Davies' Table IV).

Age x.	Number Married.	*log.* of do.	Col. 2 + *log.* $\left(\frac{1}{1\cdot05}x.\frac{1}{1\cdot025}\right)$	Natural number of do.	K. sum of do. from age x inclusive.	*log.* of do.	*log.* D_x (from Mr. Davies' Table X.)	*log.* $\frac{K_x}{D_x}$	Value of £1 at Marriage.	Do. at age $x + \frac{1}{2}$.	Value of £300 at Marriage, at age $x + \frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
0							·60509	$\bar{1}$·24255	·1748	·1854	55·62
1							·55541	·29223	·1960	·2051	61·53
2							·51697	·33067	·2141	·2229	66·87
3							·48293	·36471	·2316	·2399	71·97
4							·45292	·39472	·2482	·2563	76·89
5							·42532	·42232	·2644	·2726	81·78
6							·39922	·44842	·2808	·2891	86·73
7							·37433	·47331	·2974	·3061	91·83
8							·34967	·49797	·3148	·3239	97·17
9							·32535	·52229	·3329	·3424	102·72
10							·30133	·54631	·3518	·3618	108·54
11							·27747	·57017	·3717	·3822	114·66
12							·25363	·59401	·3927	·4038	121·14
13							·22978	·61786	·4148	·4266	127·98
14	318	2·50243	2·19506	156·7	7041·2	3·84764	·20586	·64178	·4383	·4479	134·37
15	624	·79518	·46661	292·8	6884·5	·83787	·17754	·66033	·4574	·4649	139·47
16	914	·96095	·61120	408·5	6591·7	·81900	·14476	·67424	·4723	·4776	143·28
17	1174	3·06967	·69873	499·7	6183·2	·79121	·10731	·68390	·4829	·4861	145·83
18	1678	·22479	·83266	680·2	5683·5	·75462	·06513	·68949	·4892	·4871	146·13
19	2086	·31931	·90599	805·4	5003·3	·69926	·01364	·68562	·4849	·4765	142·95
20	2141	·33062	·89611	787·2	4197·9	·62303	·95269	·67034	·4681	·4554	136·62
21	1804	·25624	·80054	631·7	3410·7	·53284	·88686	·64598	·4426	·4298	128·94
22	1482	·17085	·69396	494·3	2779·0	·44389	·82378	·62011	·4170	·4050	121·50
23	1303	·11494	·61686	413·9	2284·7	·35883	·76446	·59437	·3930	·3804	114·12
24	1083	·03463	·51536	327·6	1870·8	·27202	·70646	·56556	·3678	·3561	106·83

25	926	2·96661	·42615	266·8	1543·2	·18843	·65154	·53689	·3443	·3329	99·87
26	791	·89818	·33653	217·0	1276·4	·10599	·59894	·50705	·3214	·3105	93·15
27	687	·83696	·25413	179·5	1059·4	·02506	·54860	·47646	·2995	·2889	86·67
28	583	·76567	·16165	145·1	879·91	2·94443	·49990	·44453	·2783	·2685	80·55
29	491	·69108	·06587	116·4	734·81	·86617	·45347	·41271	·2586	·2498	74·94
30	421	·62428	1·97788	95·03	618·41	·79128	·40921	·38207	·2410	·2330	69·90
31	370	·56820	·90061	79·54	523·38	·71881	·36672	·35209	·2250	·2174	65·22
32	323	·50920	·82042	66·13	443·84	·64723	·32546	·32177	·2098	·2028	60·84
33	290	·46240	·75243	56·55	377·71	·57716	·28542	·29174	·1958	·1890	56·70
34	259	·41330	·68214	48·10	321·16	·50672	·24623	·26049	·1822	·1757	42·71
35	231	·36361	·61126	40·86	273·06	·43626	·20787	·22839	·1692	·1630	48·90
36	206	·31387	·54031	34·70	232·20	·36586	·17038	·19548	·1568	·1510	45·30
37	182	·26007	·46534	29·20	197·50	·29557	·13360	·16197	·1452	·1398	41·94
38	160	·20412	·38820	24·45	168·30	·22608	·09774	·12834	·1344	·1295	38·85
39	139	·14301	·30590	20·23	143·85	·15791	·06266	·09524	·1245	·1202	36·06
40	120	·07918	·22098	16·63	123·62	·09209	·02849	·06360	·1158	·1120	33·60
41	102	·00860	·12911	13·46	106·99	·02934	·99504	·03430	·1082	·1051	31·53
42	93	1·96848	·06781	11·69	93·529	1·97094	·96241	·00853	·1020	·09906	29·72
43	83	·91908	0·99722	9·936	81·839	·91296	$\bar{2}$·93016	·98280	·09612	·09350	28·05
44	74	·86923	·92618	8·437	71·903	·85675	·89826	·95849	·09088	·08858	26·57
45	66	·81954	·85530	7·166	63·466	·80254	·86668	·93586	·08627	·08426	25·28
46	65	·81291	·82748	6·722	56·300	·75051	·83539	·91512	·08225	·08005	24·02
47	63	·79934	·79272	6·205	49·578	·69529	·80407	·89122	·07784	·07555	22·67
48	68	·83251	·80470	6·378	43·373	·63722	·77243	·86479	·07325	·07026	21·08
49	72	·85733	·80833	6·432	36·995	·56814	·74030	·82784	·06727	·06360	19·08
50	76	·88081	·81062	6·466	30·563	·48520	·70755	·77765	·05993	·05549	16·65
51	68	·83251	·74113	5·510	24·097	·38197	·67399	·70798	·05105	·04678	14·03
52	61	·78533	·67276	4·707	18·587	·26921	·64080	·62841	·04250	·03838	11·51
53	54	·73239	·59863	3·969	13·880	·14239	·60776	·53463	·03425	·03032	9·10
54	47	·67210	·51715	3·290	9·9107	0·99611	·57478	·42133	·02638	·02270	6·81
55	36	·55630	·38011	2·399	6·6207	·82090	·54199	·27891	·01901	·01604	4·81
56	25	·39794	·20062	1·587	4·2217	·62549	·50958	·11591	·01306		
57	19	·27875	·05419	1·126	2·6347	·42073	$\bar{3}$·47750	·94323	·00877		
58	14	·14613	$\bar{1}$·90643	·8062	1·5087	·17860	·44532	·73328	·00541		
59	9	0·95424	·69335	·4936	·7026	$\bar{1}$·84665	·41315	·43350	·00271		
60	4	·60206	·31998	·2089	·2089	·31994	$\bar{4}$·38070	·93924	·00087		

Table No. 23.

Sons' Contingent Benefits.—Value at 5 per cent. of Contingent Reversionary Pensions to the Sons of living Members, payable quarterly in advance till the age of 21 in the event of their becoming Fatherless; before that age, Pensions £30 per annum under the age of 5 years, £60 per annum from 5 to 8, £80 per annum from 8 to 11, and £100 per annum from 11 to 21.

Age x.	*log.* D_x (by Davies' Table X.)	Ditto + *log.* l_{x+35} (by Table 17 (A.)	$D_{x,\ x+35}$ ÷ 1000.	*log.* $P_{x+\frac{1}{2}}$ or of Value of Pension at age $x+\frac{1}{2}$.	*log.* $P_{x+\frac{1}{2}}$ D_x d_{x+35}.	Natural No. of do. ÷ 1000.	Sum of ditto.	*log.* of ditto.	Col. 3 *minus* Col. 2.	Value of Contingent Reversionary Benefits.	Value of ditto at age $x+\frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
0	4·00000	7·84601	70147	2·87367	9·00721	1016740	10309845	10·01325	2·16724	146·97	149·22
1	3·95032	·78787	61358	·89990	·98055	956203	9293105	9·96816	·18029	151·46	151·27
2	·91288	·74179	55181	·91939	·96260	917487	8336902	·92100	·17921	151·08	149 69
3	·87884	·69898	50001	·93582	·94499	881029	7419415	·87011	·17113	148·30	145·67
4	·84883	·66002	45711	·94961	·92544	842442	6538386	·81547	·15545	143·04	139·33
5	·82122	·62328	42003	·95446	·90601	805397	5695944	·75557	·13229	135·61	130·97
6	·79512	·58787	38714	·95069	·86308	729592	4890547	·68936	·10149	126·33	121·35
7	·77023	·55372	35787	·94588	·82332	665764	4160955	·61919	·06547	116·27	110·94
8	·74558	·51979	33097	·93527	·77774	599432	3495191	·54347	·02368	105·60	100·06
9	·72125	·48626	30638	·91802	·72206	527303	2895759	·46176	1·97550	94·51	88·98
10	·69724	·45308	28384	·89878	·67520	473369	2368456	·37447	·92139	83·44	77·74
11	·67336	·42003	26304	·87137	·60919	406621	1895087	·27763	·85760	72·04	66·55
12	·64952	·38706	24381	·83385	·53645	343914	1488466	·17274	·78568	61·05	55·85
13	·62564	·35408	22599	·79036	·46135	289301	1144552	·05863	·70455	50·65	45·74
14	·60174	·32107	20945	·73918	·37434	236777	855251	8·93009	·61102	40·83	37·35
15	·57780	·28809	19413	·67784	·28095	190963	618474	·79132	·50323	31·86	27·84
16	·55370	·25503	17990	·60195	·18915	154579	427511	·63095	·37592	23·76	20 08
17	·52959	·22136	16648	·50406	·07897	119942	272932	·43605	·21469	16·39	13·17
18	·50514	·18698	15381	·36931	·93135	85379	152990	·18466	0·99768	9·95	7·36
19	·48050	·15192	14188	·15866	·70735	50974	67611	7·83002	·67810	4·77	3·02
20	·45577	·11628	13070	·68975	·22107	16637	16637	·22107	·10479	1·27	·64
21	·43090	·07997	12022								

Table No. 24.

Daughter's Contingent Benefits.—Value at 5 per cent. of Contingent Reversionary Benefits to the Daughters of living Members in the event of their becoming Fatherless; whilst unmarried, Pensions £30 per annum under the age of 5 years, £60 per annum from 5 to 8, £80 per annum from 8 to 11, and £100 per annum from 11, payable quarterly till Marriage or Death, and a Marriage portion of £300.

Age x.	*log.* D_x by Davies' Table X.	Ditto + *log.* l_{x+35} by Table No. 17 (A.)	$D_{x\ x+35}$ ÷1000.	$P_{x+\frac{1}{2}}$ Value of Total Pensions and Marriage Portion.	*log.* of ditto.	*log.* $P_{x+\frac{1}{2}}$ $D_x d_{x+35}$.	Natural No. of do. ÷ 1000.	Sum of Col. 7 from age x inclusive.	*log.* of ditto.	*log.* Col. 9 minus Col. 2.	Value of Total Contingent Reversionary Benefits.	Value of ditto at age $x+\frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0	4·60509	8·45110	282553	969·7	2·98664	9·72527	5312146	75697364	10·87908	2·42798	267·90	276·35
1	·55541	·39296	247150	1040·8	3·01737	·79311	5047891	70385218	·84748	·45452	284·79	289·71
2	·51697	·34588	221758	1099·6	·04123	·68853	4881238	65337327	·81516	·46928	294·63	297·75
3	·48293	·30307	200942	1152·2	·06153	·67479	4725229	60456089	·78144	·47837	300·86	302·11
4	·45292	·26411	183700	1199·8	·07911	·65913	4561734	55726824	·74606	·48195	303·35	303·23
5	·42532	·22738	168803	1229·5	·08973	·64538	4419570	51165130	·70897	·48159	303·10	301·78
6	·39922	·19197	155586	1241·6	·09398	·61047	4078214	46745560	·66978	·47777	300·45	298·56
7	·37433	·15782	143820	1252·2	·09767	·57921	3794984	42667346	·63010	·47228	296·67	294·46
8	·34967	·12390	133015	1252·4	·09774	·54432	3502031	38872362	·58964	·46574	292·24	289·75
9	·32535	·09036	123129	1241·2	·09384	·50198	3176728	35370331	·54864	·45828	287·26	284·75
10	·30133	·05717	114070	1228·7	·08945	·46996	2950937	32193603	·50777	·45060	282·23	279·43
11	·27747	·02414	105716	1205·0	·08099	·42292	2648012	29242666	·46602	·44180	276·62	274·02
12	·25363	7·99117	97987	1169·4	·06796	·37467	2369573	26594654	·42479	·43362	271·41	269·08
13	·22978	·95819	90822	1132·0	·05385	·32895	2132799	24225082	·38427	·42608	266·74	264·60
14	·20585	·92518	84174	1096·7	·04009	·27936	1902655	22092283	·34424	·41906	262·46	261·92
15	·17754	·88783	77238	1067·3	·02829	·23114	1702707	20189628	·30513	·41730	261·40	262·47

Table No. 24.—(Continued.)

Age x.	*log.* D_x by Davies' Table X.	Ditto + *log.* l_{x+35} by Table No. 17 (A.)	D_{x+35} —1000.	$P_{x+\frac{1}{2}}$ Value of Total Pensions and Marriage Portion.	*log.* of ditto.	*log.* $P_{x+\frac{1}{2}}$ $D_x d_{x+35}$.	Natural No. of do. ÷ 1000.	Sum of Col. 7 from age x inclusive.	*log.* of ditto.	*log.* Col. 9 minus Col. 2.	Value of Total Contingent Reversionary Benefits.	Value of ditto at age $x+\frac{1}{2}$.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
16	4·14476	7·84601	70147	1043·9	3·01866	9·19684	1573403	18486921	10·26686	2·42085	263.54	266·09
17	·10731	·79908	62962	1026·7	·01144	·16407	1459049	16913518	·22823	·42915	268·63	272·69
18	·06513	·74697	55843	1020·2	·00869	·13072	1351201	15454469	·18906	·44208	276·75	284·50
19	·01364	·68506	48424	1029·3	·01254	·09437	1242711	14103268	·14932	·46426	291·25	302·32
20	3·95268	·61319	41038	1052·4	·02218	·05041	1123078	12860557	·10926	·49607	313·38	327·54
21	·88686	·53593	34350	1081·2	·03391	·00356	1008231	11737479	·06958	·53365	341·70	356·51
22	·82378	·46083	28895	1108·4	·04470	8·96190	916010	10729248	·03057	·56974	371·31	386·05
23	·76445	·38890	24485	1134·6	·05484	·91966	831113	9813238	9·99187	·60291	400·78	416·48
24	·70646	·31773	20784	1160·3	·06457	·88162	761413	8982125	·95338	·63565	432·17	447·79
25	·65154	·24895	17740	1183·9	·07332	·83880	689922	8220712	·91491	·66596	463·40	479·44
26	·59894	·18182	15199	1205·7	·08124	·80403	636840	7530799	·87684	·69502	495 47	511·61
27	·54860	·11605	13063	1225·9	·08846	·77378	593991	6893950	·83847	·72242	527·74	544·07
28	·49991	·05094	11245	1244·4	·09496	·74409	554741	6299959	·79934	·74850	560·40	576·19
29	·45347	6·98700	9705·1	1259·9	·10034	·70915	511859	5745218	·75931	·77231	591·98	607 62
30	·40921	·92411	8396·7	1272·8	·10476	·68129	480054	5233359	·71878	·79467	623·26	638·38
31	·36672	·86176	7273·8	1283·6	·10843	·64541	441988	4753305	·67700	·81524	653·49	668·91
32	·32545	·79935	6300·1	1292·5	·11143	·61586	412914	4311317	·63461	·83526	684·32	699·48
33	·28542	·73681	5453·2	1300·1	·11398	·57838	378774	3898403	·59089	·85408	714·63	730·41
34	·24623	·67365	4716·8	1306·4	·11608	·54700	352371	3519629	·54650	·87285	746·19	762·04
35	·20788	·60977	4071·6	1311·3	·11770	·51027	323795	3167258	·50068	·89091	777·88	794·22
36	·17038	·54507	3508·1	1314·8	·11886	·49607	313379	2843463	·45385	·90878	810·55	826·38
37	·13360	·47771	3004·1	1316·6	·11945	·48094	302650	2530084	·40313	·92542	842·21	856·96

38	·09770	·40743	2555·2	1316·8	·11952	·45781	286953	2227434	·34780	·94037	871·71	885·95
39	·06266	·33358	2155·7	1314·9	·11890	·43441	271894	1940481	·28791	·95433	900·18	913·11
40	·02849	·25572	1801·9	1310·9	·11757	·40133	251959	1668587	·22235	·96663	926·04	938·59
41	2·99504	·17302	1489·4	1304·8	·11554	·37065	234774	1416628	·15126	·97824	951·13	961·71
42	·96241	·08477	1215·5	1296·9	·11291	·32574	281701	1181854	·07256	·98779	972·28	982·87
43	·93016	5·98969	976·54	1287·6	·10978	·27799	189666	970145	8·98684	·99715	993·46	1003·23
44	·89826	·88675	770·46	1276·8	·10612	·22186	166671	780479	·89236	3·00561	1013·00	1022·06
45	·86668	·77472	595·28	1264·7	·10199	·15336	142351	613808	·78803	·01331	1031·12	1040·65
46	·83539	·65218	448·93	1251·4	·09740	·10011	125924	471457	·67344	·02126	1050·17	1057·97
47	·80407	·51083	324·21	1237·6	·09258	·02375	105621	345533	·53849	·02766	1065·76	1073·81
48	·77242	·34588	221·76	1223·8	·08771	7·92832	84785	239912	·38005	·03417	1081·86	1088·40
49	·74031	·15130	141·68	1210·3	·08289	·80092	63295	155127	·19069	·03939	1094·94	1100·99
50	·70754	4·91883	82·953	1197·4	·07824	·63704	43355	91832	7·96299	·04416	1107·03	1112·50
51	·67400	·63711	43·362	1184·0	·07335	·41945	26269	48477	·68554	·04843	1117·97	1127·87
52	·64080	·29046	19·519	1169·3	·06793	·15009	14128	22208	·34651	·05605	1137·76	1137·32
53	·60776	3·85170	7·1072	1153·4	·06198	6·78368	6077	8080	6·90741	·05571	1136·87	1105·64
54	·57478	·27051	1·8643	1136·2	·05545	·23229	1707	2003	·30168	·03117	1074·41	1095·68
55	·54199	2·42326	·26501	1117·3	·04817	5·47143	296	298	5·47129	·04803	1116·94	

Table No. 25.

Bachelors—Probability of marrying or dying in a year, also the number at each age, 20 *to* 60, *surviving Unmarried out of* 10,000 *entering at* 20, *the rate of Marriage being deduced from the experience of the Bengal Civil Fund for* 13 *years,* 1850 *to* 1862 *inclusive, and the rate of Mortality from Table No.* 17 *(A), Bengal Civil Service,* 1801 *to* 1858.

Age *x*.	*log.* of probability of marrying in a year.	Probability of marrying in a year.	Probability of dying in a year.	Living unmarried.	Number who marry.	Number who die.	Both.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
20	·29813	·0199	·0173	10000	199	173	372
21	·59626	·0395	·0173	9628	380	167	547
22	·89439	·0784	·0173	9081	712	157	869
23	·90011	·0795	·0174	8212	653	143	796
24	·90583	·0805	·0174	7416	597	129	726
25	·91155	·0816	·0174	6690	546	116	662
26	·91727	·0827	·0175	6028	499	105	604
27	·92298	·0838	·0175	5424	455	95	550
28	·95981	·0912	·0176	4874	445	86	531
29	·99664	·0992	·0176	4343	431	76	507
30	·03347	·1080	·0176	3836	414	68	482
31	·07230	·1181	·0180	3354	396	60	456
32	·10714	·1280	·0183	2898	371	53	424
33	·05761	·1142	·0186	2474	283	46	329
34	·00807	·1019	·0190	2145	219	41	260
35	·95853	·0909	·0193	1885	171	36	207
36	·90899	·0811	·0197	1678	136	33	169
37	·85945	·0724	·0200	1509	109	30	139
38	·81749	·0657	·0204	1370	90	28	118
39	·77553	·0596	·0208	1252	75	26	101
40	·73357	·0541	·0212	1151	62	24	86
41	·69161	·0492	·0211	1065	52	22	74
42	·64965	·0446	·0211	991	44	21	65
43	·60769	·0405	·0210	926	38	19	57
44	·56572	·0368	·0209	869	32	18	50
45	·52375	·0334	·0209	819	27	17	44
46	·51287	·0326	·0208	775	25	16	41
47	·50199	·0318	·0208	734	23	15	38
48	·49111	·0310	·0207	696	22	14	36
49	·48023	·0302	·0206	660	20	14	34
50	·46935	·0295	·0206	626	18	13	31
51	·45847	·0287	·0216	595	17	13	30
52	·44759	·0280	·0226	565	16	13	29
53	·43671	·0273	·0237	536	15	13	28
54	·42583	·0267	·0248	508	14	13	27
55	·41497	·0260	·0260	481	13	13	26
56	·33197	·0215	·0273	455	10	12	22
57	·24897	·0177	·0286	433	8	12	20
58	·16597	·0147	·0299	413	6	12	18
59	·08297	·0121	·0314	395	5	12	17

Table No. 26 (B.)

Bachelors—Value at 5 per cent., at any age of Bachelors of Contingent Pensions of £300 to their wives if they should marry thereafter, the Pension being reduced to one-half if the widow re-marries.

By Table No. 25 (B.)											
Age x.	*log.* l_x	*log.* $v^x l_x$	$D_x = v^x l_x$	*log.* m_x.	*log.* of Value of wife's contingent Pension, or $V_{x+\frac{1}{2}}$ by Table No. 19.	*log.* $v^x m_x V_{x+\frac{1}{2}}$	Natural number of ditto.	Sum of Col. 7 from age x inclusive.	*log.* ditto.	Col. 9 minus Col. 2.	Value of wife's contingent Pension if a Bachelor of age x should marry thereafter.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		£
20	4·00000	3·57621	3768·9	2·29885	3·00363	4·87870	75631	2099372	6·32209	2·74588	557·03
21	3·98354	·53856	3455·9	·57978	·00428	·03908	137746	2023741	·30615	·76759	585·59
22	·95813	·49197	3104·3	·85248	·00570	·39202	246615	1885995	·27554	·78357	607·53
23	·91445	·42710	2673·6	·81491	·00779	·33535	216446	1639380	·21468	·78758	613·17
24	·87017	·36163	2299·5	·77597	·01043	·27786	189610	1422934	·15318	·79155	618·80
25	·82543	·29570	1975·6	·73719	·01376	·22122	166426	1233324	·09108	·79538	624·28
26	·78017	·22925	1695·3	·69810	·01741	·16459	146080	1066898	·02812	·79887	629·32
27	·73432	·16221	1452·8	·65801	·02123	·10713	127976	920818	5·96417	·80196	633·81
28	·68789	·09459	1243·3	·64836	·02510	·08016	120271	792842	89919	·80460	637·68
29	·63779	·02330	1055·1	·63448	·02894	·04893	111926	672571	·82774	·80444	637·44
30	·58388	2·94820	887·56	·61700	·03278	·01410	103300	560645	·74869	·80049	631·67
31	·52556	·86869	739·08	·59770	·03651	·97734	94916	457345	·66020	·79155	618·80
32	·46210	·78404	608·19	·56937	·03981	·93112	85334	362429	·55922	·77518	595·91
33	·39340	·69415	494·48	·45179	·04273	·79527	62412	277095	·44263	·74848	560·38
34	·33143	·61099	408·31	·34044	·04540	·66540	46281	214683	·33180	·72081	525·79
35	·27531	·53368	341·73	·23300	·04770	·53907	34600	168402	·22635	·69267	492·80
36	·22479	·46198	289·72	·13354	·04961	·42034	26323	133802	·12646	·66448	461·83
37	·17869	·39469	248·14	·03743	·05127	·30470	20170	107479	·03132	·63663	433·14
38	·13672	·33153	214·55	1·95424	·05250	·20155	15906	87308·6	4·94106	·60953	406·94

Table No. 26 (B.)—(Continued)

By Table No: 25 (B.)											
Age x.	$log.\ l_x$.	$log.\ v^x\ l_x$.	$D_x = v^x\ l_x$.	$log.\ m_x$.	$log.$ of Value of wife's contingent Pension, or $V_{x+\frac{1}{2}}$ by Table No. 19.	$log.\ v^x\ m_x\ V_{x+\frac{1}{2}}$	Natural number of ditto.	Sum of Col. 7 from age x inclusive.	$log.$ ditto.	Col. 9 minus Col. 2.	Value of wife's contingent Pension if a Bachelor of age x should marry thereafter.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	"	£
39	3·09760	2·27122	186·73	1·87506	3 05346	·10214	12651·0	71402·6	4·85371	2·58249	382·38
40	·06108	·21351	163·50	·79239	·05400	·99882	9972·9	58751·6	·76902	·55551	359·34
41	·02735	·15859	144·08	·71600	·05434	·90158	7972·2	48778·7	·68823	·52964	338·56
42	2·99607	·10612	127·68	·64345	·05492	·80842	6433·1	40806·5	·61073	·50461	319·60
43	·96661	·05547	113·62	·57978	·05576	·72440	5301·5	34373·4	·53622	·48075	302·52
44	·93902	·00669	101·55	·50515	·05706	·62988	4264·6	29071·9	·46347	·45678	286·27
45	·91328	1·95976	91·151	·43136	·05858	·53642	3439·0	24807·3	·39458	·43482	272·16
46	·88930	·91459	82·147	·39794	·06036	·48359	3045·0	21368·3	·32977	·41518	260·12
47	·86570	·86980	74·097	·36173	·06277	·42860	2682·9	18323·3	·26300	·39320	247·29
48	·84261	·82552	66·914	·34242	·06573	·39106	2460·7	15640 4	·19425	·36873	233·74
49	·81954	·78126	60·431	·30103	·06930	·33205	2148·1	13179·7	·11991	33865	218·10
50	·79657	·73711	54·590	·25527	·07354	·26935	1859·3	11031·6	·04264	·30553	202·08
51	·77452	·69387	49·416	·23045	·07806	·22786	1689·9	9172·3	3·96248	·26861	185·61
52	·75205	·65021	44·690	·20412	·08232	·18460	1529·7	7482·4	·87404	·22383	167·43
53	·72916	·60613	40·377	·17609	·08618	·13924	1378·0	5952·7	·77471	·16858	147·43
54	·70586	·56164	36·445	·14613	·08973	·09164	1234·9	4574·7	·66036	·09872	125·52
55	·68215	·51674	32·865	·11394	·09297	·04150	1100·3	3339·8	·52372	·00698	101·62
56	·65801	·47141	29·608	·00000	·09615	·90955	811·99	2239·5	·35015	1·87874	75·64
57	·63649	·42870	26·835	0·90309	·09909	·79439	622·86	1427·5	·15458	·72588	53·20
58	·61595	·38697	24·376	·77815	·10171	·65088	447·59	804·65	2·90561	·51864	33·01
59	·59660	·34643	22·204	·69897	·10394	·55274	357·06	357·06	·55274	·20631	16·08

Table No. 27 (B).

Bachelors.—Value at 5 per cent. at every age of Bachelors, of Children's Contingent Benefits (as shown in Tables No. 23 for Sons and 24 for Daughters) on the chance of future marriage of Bachelors, assuming 4·5 Children to each family, and that the average date of birth is 5 years after marriage (V=£731·36.)

Age x	*log.* $^{x}m_{x}$.V.	$v.^{x}m_{x}$. V.	K_x sum of ditto from age x inclusive.	*log.* of do.	*log.* $\frac{K_x}{D_x}$	Value of Children's Benefits if Bachelors of age x should marry thereafter.
	(1)	(2)	(3)	(4)	(5)	(6)
20	4·73919	54852	1464117	6·16558	2·58937	388·48
21	·99893	99754	1409265	·14899	·61043	407·78
22	·25045	178012	1309511	·11711	·62514	421·83
23	·19169	155486	1131499	·05365	·62655	423·20
24	·13156	135382	976013	5·98946	·62783	424·45
25	·07159	117921	840631	·92461	·62891	425·51
26	·01131	102638	722710	·85896	·62971	426·29
27	3·95003	89131	620072	·79244	·63023	426·81
28	·91919	83021	530941	·72505	·63046	427·03
29	·88412	76581	447920	·65120	·62790	424·52
30	·84545	70057	371339	·56977	·62157	418·38
31	·80496	63820	301282	·47897	·61028	407·64
32	·75544	56943	237462	·37559	·59155	390·44
33	·61667	41369	180519	·25652	·56237	365·06
34	·48413	30488	139150	·14348	·53249	340·79
35	·35550	22673	108662	·03608	·50240	317·98
36	·23486	17174	85988·9	4·93444	·47246	296·80
37	·11756	13109	68814·9	·83768	·44299	277·33
38	·01318	10308	55705·9	·74590	·41437	259·64
39	2·91281	8181·1	45397·9	·65704	·38588	243·15
40	·80895	6441·0	37216·8	·57074	·35723	227·63
41	·71137	5144·8	30775·8	·48821	·32962	213·61
42	·61763	4146·0	25631·0	·40877	·30265	200·75
43	·53277	3410·1	25485·0	·33214	·27667	189·09
44	·43695	2735·0	18074·9	·25708	·25039	177·99
45	·34197	2197·7	15339·9	·18582	·22606	168·29
46	·28736	1938·0	13142·2	·11867	·20408	159·99
47	·22996	1698·1	11204·2	·04938	·17958	151·21
48	·18946	1546·9	9506·08	3·97800	·15248	142·06
49	·12688	1339·3	7959·18	·90087	·11961	131·71
50	·05994	1148·0	6619·88	·82085	·08374	121·27
51	·01393	1032·6	5471·88	·73814	·04427	110·73
52	1·96641	925·57	4439·28	·64731	1·99710	99·33
53	·91719	826·40	3513·71	·54577	·93964	87·02
54	·86604	734·58	2687·31	·42932	·86768	73·74
55	·81268	649·65	1952·73	·29064	·77390	59·42
56	·67753	475·92	1303·08	·11497	·64356	44·01
57	·55943	362·60	827·16	2·91759	·48889	30·82
58	·41330	259·00	464·56	·66704	·28007	19·06
59	·31293	205·56	205·56	·31294	0·96651	9·26

Table No. 28.

BENGAL CIVIL FUND.

Total amount of Ordinary and Additional Subscriptions and average of ditto, payable by Members living at each age 30th April 1863, distinguishing Bachelors, Married Members, Widowers, and whether Active or Retired.

MARRIED MEMBERS—(ACTIVE.)

Age.	Number.	Monthly Subscription at 2½ per cent.	Annual average to each.	Monthly additional Subscription at 2 per cent.	Annual average to each.	Monthly additional Subscription for children at ⅛ & ¼ per cent.	Annual average to each.	Total Subscriptions.	Annual average to each.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. Dec.
20									
21	1	7 8 0	90·	6 0 0	72·	.....	.....	13 8 0	162·
22	4	28 12 0	86·25	23 0 0	69·	.....	.....	51 12 0	155·25
23	3	23 11 4	94·833	18 15 5	75·854	1 0 0	4·00	43 10 9	174·687
24	8	123 14 1	185·82	92 4 2	138·391	4 15 4	7·437	221 1 7	331·648
25	14	237 6 0	203·464	192 8 7	165·031	27 9 0	23·625	457 7 7	392·120
26	13	255 3 10	235·606	204 2 11	188·476	23 4 2	21·471	482 10 11	445·553
27	9	214 1 11	285·493	164 10 1	219·507	26 4 3	35·021	405 0 3	540·021
28	15	360 5 4	288·267	288 4 2	·230·608	29 14 8	23·933	678 8 2	542·808
29	6	137 11 8	275·458	110 2 11	220·364	20 11 8	41·458	268 10 3	537·280
30	17	441 5 6	311·537	354 4 7	250·085	34 4 1	24·180	829 14 2	585·802
31	11	386 4 0	421·364	308 15 11	337·085	37 14 1	41·381·	733 2 0	799·830
32	10	272 15 4	327·55	218 5 9	262·031	42 8 11	51·069	533 14 0	640·65
33	12	394 12 11	394·807	307 14 2	307·885	70 7 10	70·49	773 2 11	773·182
34	13	489 0 9	451·428	391 9 4	361·503	69 10 9	64·314	950 4 10	877·245
35	15	636 0 3	508·812	504 6 5	403·521	150 9 3	120·462	1,290 15 11	1032·795
36	13	460 2 11	424·783	357 7 1	329·947	75 9 9	69·793	893 3 9	824·523
37	12	512 6 9	512·422	409 14 10	409·927	106 13 11	106·870	1,029 3 6	1029·219
38	15	712 3 1	569·754	563 0 1	450·404	142 13 10	114·292	1,418 1 0	1134·450
39	15	903 2 6	722·525	722 8 5	578·021	199 11 1	159·754	1,825 6 0	1460·3

Table No. 28.—(Continued.)

MARRIED MEMBERS.—(ACTIVE.)—(Continued.)

Age.	Number.	Monthly Subscription at 2½ per cent.	Annual average to each.	Monthly additional Subscription at 2 per cent.	Annual average to each.	Monthly additional Subscription for children at ⅛ & ¼ per cent.	Annual average to each.	Total Subscriptions.	Annual average to each.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. Dec.
40	10	600 3 8	720·275	480 2 10	576·212	205 14 5	247·081	1,286 4 11	1543·569
41	13	955 12 11	882·305	764 10 2	705·835	333 0 4	307·411	2,053 7 5	1895·551
42	10	634 14 0	761·85	507 14 4	609·575	188 6 10	226·112	1,331 3 2	1597·437
43	3	187 8 0	750	150 0 0	600	56 4 0	225	393 12 0	1575
44	5	286 7 4	687·5	228 15 0	549 5	121 7 3	291·487	636 13 11	1528·487
45	5	246 1 4	590·6	196 13 8	472·450	127 6 5	305·762	570 5 5	1368·812
46	5	521 5 4	1251·2	417 1 1	1000·963	178 13 11	429·287	1,117 4 4	2681·45
47	4	321 10 8	965	257 5 4	772	100 4 0	300·75	679 4 0	2037·75
48	2	125 0 0	750	100 0 0	600	59 6 0	356·25	284 6 0	1706·25
49	2	242 0 0	1454·032	193 13 11	1163·218	46 1 4	276·5	482 4 8	2893·75
50	6	427 15 8	855·959	341 9 4	683·617	48 7 8	96·958	818 0 8	1636·083
51	5	385 6 8	925	308 5 4	740	145 6 7	348·987	839 2 7	2013·987
52	5	475 0 0	1140	380 0 0	912	191 7 4	459·5	1,046 7 4	2511·5
53	1	68 12 0	825	55 0 0	660	24 1 0	288·75	147 13 0	1773·75
54	3	171 5 6	685·375	137 1 2	548·292	52 3 5	208·853	360 10 1	1442·52
55	1	166 10 8	2000	133 5 4	1600	8 5 4	100	308 5 4	3700
56	1	108 12 0	1305	87 0 0	1044	38 1 0	456·75	233 13 0	2805·75
57	...	.. ...	.....	.....	.....	... ..	.....	.....	.....
58	1	87 8 0	1050	70 0 0	840	21 14 0	262·5	179 6 0	2152·5
Total -	288	12,609 11 4		10,047 8 8		3,011 1 5		25,668 5 5	

Table No. 28.—(Continued)

BACHELORS.

Age.	Number.	Monthly Subscription at 2½ per cent.			Annual average to each.
	(1)	(2)			(3)
		Rs.	A.	P.	
20	4	31	3	4	93·625
21	12	107	3	4	107·208
22	20	165	0	0	99·
23	30	261	2	0	104·45
24	34	416	1	4	146·853
25	10	119	4	0	143·1
26	18	302	0	8	201·361
27	33	567	2	10	206·246
28	17	413	3	4	291·618
29	7	124	8	3	213·454
30	10	289	14	10	347·912
31	..	.....			.....
32	2	81	4	0	487·5
33	4	69	8	0	208·5
34	2	21	5	5	128·031
35	6	189	12	0	379·5
36	4	191	14	8	575·75
37	4	123	5	5	370·015
38	1	17	9	3	210·936
39	2	83	13	4	503·
40	3	187	8	0	750·
41	1	17	8	0	210·
42	1	10	10	8	128·
43	2	148	2	8	889·
44	1	10	10	8	128·
Total	228	3,949	12	0	

Table No. 28.—(Continued.)

WIDOWERS (ACTIVE.)

Age.	Number.	Monthly Subscription at 2½ per cent.	Annual average to each.	Monthly additional Subscription for children at ½ and ¼ per cent.	Annual average to each.	Total Subscription.	Annual average to each.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Rs. A. P.	Rs. Dec.	Rs. A. P.	Rs. Dec.	Rs. A. P.	Rs. Dec.
26	2	30 0 0	180·			30 0 0	180·
29	1	10 10 8	128·			10 10 8	128·
30	1	22 8 0	270·			22 8 0	270·
33	2	94 14 5	569·406	5 14 6	35·437	100 12 11	604·843
37	2	138 0 0	828·	68 0 0	408·	206 0 0	1236·
38	2	41 14 8	251·5	21 0 6	126·187	62 15 2	377·687
39	2	125 0 0	750·	68 12 0	412·5	193 12 0	1162·5
41	1	10 10 8	128·			10 10 8	128·
42	1	62 8 0	750·	87 8 0	1050·	150 0 0	1800·
45	1	166 10 8	2000·	83 5 4	1000·	250 0 0	3000·
47	1	21 5 4	256·	10 10 8	128·	32 0 0	384·
48	1	104 2 8	1250·	72 14 8	875·	177 1 4	2125·
52	1	87 8 0	1050·			87 8 0	1050·
	13	915 13 1		418 1 8		1333 14 9	

Table No. 28.—(Continued.)

BACHELORS (RETIRED.)

Age.	Number.	Number compounded.	Monthly subscription at 2½ per cent.	Annual average to each.
	(1)		(2)	(3)
			Rs. A. P.	Rs. Dec.
49		1		
50	1		16 10 8	200·
51	2		34 8 6	207·190
52	2	1	37 13 11	227·218
53	2	2	38 6 4	230·375
54		2		
55				
56	2		44 7 0	266·625
57	1		22 3 6	266·625
	10	6	194 1 11	
	16			

Table No. 28.—(Continued.)

WIDOWERS (RETIRED.)

Age.	Number.	Number compounded.	Monthly subscription at 2½ per cent.	Annual average to each.	Monthly additional subscription for children at ½ and ¼ per cent.	Annual average to each.	Total subscription.	Annual average to each.
	(1)		(2)	(3)	(4)	(5)	(6)	(7)
			Rs. A. P.	Rs. Dec.	Rs. A. P.	Rs. Dec.	Rs. A. P.	Rs. Dec.
49	1		18 3 6	218·624			18 3 6	218·624
51	1		22 3 6	266·624	8 14 3	106·687	31 1 9	373·311
52	1		21 5 4	256·	4 4 2	51·125	25 9 6	307·125
54	1		22 3 6	266·624	8 14 3	106·687	31 1 9	373·311
55		1						
58	1	1	22 3 6	266·624	2 3 7	26·687	24 7 1	293·311
59	1		22 3 6	266·624	11 1 10	133·376	33 5 4	400·
60	1		21 5 1	255·812	6 6 4	76·750	27 11 5	332·562
61	1		22 3 6	266·624	8 14 3	106·687	31 1 9	373·311
67	1		22 3 6	266·624	31 1 10	373·376	53 5 4	640·
74		1						
	9	3	194 2 11		81 12 6		275 15 5	
	12							

Table No. 28.—(Continued.)

MARRIED MEMBERS.—(RETIRED.)

Age.	Number.	Number compounded.	Monthly Subscription at 2½ per cent.	Annual average to each.	Monthly additional subscription at 2 per cent.	Annual average to each.	Monthly additional subscription for children at ⅛ and ¼ per cent.	Annual average to each.	Total subscriptions.	Annual average to each.
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Rs. As. P.	Rs. Dec.	Rs. As. P.	Rs. Dec.	Rs. As. P.	Rs. Dec.	Rs. As. P.	Rs. Dec.
26	2		6 10 8	40	5 5 4	32	0 8 0	3	12 8 0	75
35	1		5 8 11	66·686	4 7 1	53·313	0 8 10	6·625	10 8 10	126·624
36	1		3 13 4	46	3 1 2	36·875	0 15 6	11·625	7 14 0	94·5
38	1		3 7 0	41·25	2 12 0	33	1 6 0	16·5	7 9 0	90·75
41	2		8 0 11	48·343	6 7 2	38·687	1 15 8	11·875	16 7 9	98·905
46	1		19 6 4	232·75	15 8 4	186·25.			34 14 8	419
47	3		59 5 7	237·396	47 7 10	189·958	20 6 2	81·542	127 3 7	508·896
48	1	1	18 4 6	219·375	14 10 2	175·625	6 6 4	76·75	39 5 0	471·75
49	4		73 9 2	220·734	58 13 9	176·578	18 8 4	55·563	150 15 4	452·875
50	7	3	129 13 2	222·554	103 13 6	178·018	42 0 4	72·036	275 11 0	472·608
51	8	2	150 4 0	225 375	120 3 3	180·305	44 12 10	67·203	315 4 1	472·883
52	7	1	135 2 5	231·687	108 2 0	185·357	51 1 10	87·625	294 6 3	504·669
53	5	3	106 12 0	256·2	85 6 8	205	43 8 10	104·525	235 11 6	565·725
54	8	4	172 5 5	258·508	137 13 7	206·773	37 14 10	56·890	348 1 10	522·171
55	7	2	136 1 10	233·339	108 14 1	186·652	54 12 6	93·911	299 12 5	513·902
56	6	3	122 15 11	245·989	98 6 4	196·792	43 6 8	86·833	264 12 11	529·614
57	3	2	65 14 9	263·687	52 11 10	210·958	19 5 3	77·312	137 15 10	551·957
58	3	1	65 12 4	263·083	52 9 10	210·458	13 0 6	52·125	131 6 8	525·666
59	2	1	44 7 0	266 625	35 8 11	213·343	3 5 5	20·032	83 5 4	500
60	2	4	44 7 0	266·625	35 8 10	213·312	4 7 3	26·719	84 7 1	506·656

Table No. 28.—(Continued.)

MARRIED MEMBERS.—(RETIRED.)

Age.	Number.	Number compounded.	Monthly Subscription at 2½ per cent.	Annual average to each.	Monthly additional subscription at 2 per cent.	Annual average to each.	Monthly additional subscription for children at ⅛ and ¼ per cent.	Annual average to each.	Total subscriptions.	Annual average to each.
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Rs. As. P.	Rs. Dec.	Rs. As. P.	Rs. Dec.	Rs. As. P.	Rs. Dec.	Rs. As. P.	Rs. Dec.
61		2								
62		2								
63	1	2	22 3 6	266·625	17 12 5	213·312	3 5 5	40·064	43 5 4	520
64		2								
65		1								
68	2	1	44 7 0	266·625	35 8 11	213·343	2 3 8	13·375	82 3 7	493·343
71		1								
73		1								
	77	39	1438 12 10		1151 1 0		414 0 2		3003 14 0	
	116									

Table No. 29.

Showing the proportion of Members of each Class, Active and Retired, who would be living according to the Survivors in Table No. 17 *(A.) at each Decennial age, the total Subscriptions that would be paid by them, and the average for each, deduced from the averages of Living Members,* 30*th April* 1863.

Ages	20—	25—	35—	45—	55—	65—75
Mean age	22	30	40	50	60	70
Bachelors	7635	3431	1065			
Married	1222	3993	4724	1668	210	
Widowers	...	200	342	174		
Total Active ...	8857	7624	6131	1842	210	
Bachelors	...	...	...	570	210	
Married	...	69	209	2545	3122	1893
Widowers	...	...	...	175	415	630
Total Retired ...	...	69	209	3290	3747	2523
Total Both ...	8857	7693	6340	5132	3957	2523
Subscriptions.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Active Bachelors, 2½ per cent.	7,63,500	7,94,620	5,01,510			
Married 2½ per cent. ...	1,22,200	12,73,370	30,07,300	15,72,260	3,04,840	
Do. for Wives, 2½ per cent.	97,760	10,14,620	23,94,600	12,57,340	2,43,850	
Do. for Children, ¼ and ⅛ per cent.	5,500	1,52,930	8,07,330	5,12,910	57,370	
Total ...	2,25,460	24,40,920	62,09,230	33,42,510	6,06,060	
Widowers, 2½ per cent. ...	...	63,240	1,93,980	1,98,200		
Do. for Children ½ and ¼ per cent.	...	2,360	1,25,820	87,120		
Total .	...	65,600	3,19,800	2,85,320		
Total of Active ...	9,88,960	33,01,140	70,30,540	36,27,830	6,06,060	

Table No. 29.—(Continued.)

Ages — —	20—	25—	35—	45—	55—	65—75
Mean age — —	22	30	40	50	60	70
Subscriptions.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Retired Bachelors —	—	—	—	1,24,600	56,030	
Married — —	—	2,760	10,490	6,00,370	7,83,620	5,04,300
Do. for wives —	—	2,210	8,360	4,80,240	6,26,900	4,04,340
Do. for children —	—	210	2,470	1,83,750	2,21,040	24,990
Total —	—	5,180	21,320	12,64,360	16,31,560	9,33,630
Widowers — —	—	—	—	44,100	1,09,560	1,67,830
Do. for children —	—	—	—	11,550	35,610	8,320
Total —	—	—	—	55,650	1,45,170	1,76,150
Total of Retired —	—	5,180	21,320	14,44,610	18,32,760	11,09,780
Total Subscriptions Active, Retired — —	9,88,960	33,06,320	70,51,860	50,72,440	24,38,820	11,09,780
Average for each Member living by Table A —	112	430	1,112	988	616	440

At age 75 and upwards only Retired Widowers average Rs. 266 at each age.

Table No. 30.

Value of Subscriptions increasing with age, including Bachelors' Married and Widowers' ordinary subscriptions and additional for Wives and Children, Active and Retired lists, computed at 5 per cent. interest.

Bachelors and other Members ... 2½ per cent. on income.
Married ... ... 2 „ additional for wives.
Do. ... ... ⅛ „ for sons.

Married ... ... ¼ per cent. for daughters.
Widowers ... ¼ „ for sons.
Do. ... ... ½ „ for daughters.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age x	Average Subscription at each age.	*log.* of do.	Do. + *log.* D_m from Table 17(A) 5 per cent.	Natural No. of do.	K_x Sum of ditto from age x + 1 inclusive.	*log.* of do.	*log.* K_x − *log.* D_x	Value of Subscription for life.
	Rs.							Rs.
20	100	2·00000	3·53868	345700	23853012	7·37154	3·83586	6900
21	106	·02461	·53452	342389	23510623	·37126	·86135	7267
22	112	·04922	·53037	339133	23171490	·36495	·88380	7653
23	133	·12225	·57463	375517	22795973	·35786	·90548	8044
24	157	·19528	·61885	415767	22380206	·34986	·92629	8439
25	185	·26831	·66307	460331	21919875	·34084	·94608	8832
26	219	·34134	·70729	509671	22410204	·33062	·96467	9219
27	260	·41437	·75146	564285	20845969	·31902	·98198	9593
28	307	·48740	·79563	624640	20221329	·30581	·99788	9945
29	363	·56043	·83976	691449	19529880	·29070	4·01137	10265
30	430	·63347	·88390	765420	18764460	·27334	·02291	10542
31	472	·67473	·89626	787577	17976943	·25471	·03318	10794
32	520	·71599	·90844	809916	17167027	·23469	·04224	11021
33	572	·75725	·92049	832703	16334324	·21310	·04986	11217
34	629	·79851	·93241	855874	15478450	·18973	·05583	11372
35	691	·83977	·94415	879326	14599124	·16433	·05995	11480
36	760	·88103	·95577	903171	13695953	·13659	·06185	11531
37	836	·92229	·96720	927257	12768696	·10615	·06124	11514
38	920	·96356	·97851	951722	11816974	·07251	·05756	11417
39	1011	·00483	·98964	976428	10840546	·03505	·05024	11226
40	1112	·04610	·00059	1001359	9839187	·99296	·03847	10926
41	1099	·04096	·96495	922465	8916722	·95021	·02622	10622
42	1086	·03582	·92936	849885	8066837	·90670	·01316	10308
43	1073	·03068	·89377	783015	7283822	·86236	3·99927	9983
44	1061	·02554	·85822	721473	6562349	·81706	·98438	9647
45	1048	·02041	·82273	664860	5897489	·77087	·96835	9297
46	1036	·01528	·78724	612689	5284800	·72303	·95107	8934
47	1024	·01015	·75179	564664	4720136	·67395	·93231	8557
48	1012	·00502	·71634	520403	4199733	·62322	·91190	8164
49	1000	·99989	·68094	479667	3720066	·57055	·88950	7754
50	988	·99476	·64559	442171	3277895	·51560	·86477	7324
51	942	·97424	·59484	393405	2884490	·46007	·83947	6910
52	899	·95372	·54365	349663	2534827	·40395	·81402	6517

Table No. 30.—(*Continued.*)

Bachelors and other Members... 2½ per cent. on income.
Married ... ... 2 „ additional for wives.
Do. ... ... ½ „ for sons.

Married ... ... ¼ per cent. for daughters.
Widowers... ... ¼ „ for sons.
Do. ... ... ½ „ for daughters.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age x	Average Subscription at each age.	*log.* of do.	Do. + *log.* D_m from Table 17(A) 5 per cent.	Natural No. of do.	K_x Sum of ditto from age x + inclusive.	*log.* of do.	*log* K_x − *log* D_x	Value of Subscription for life.
	Rs.							Rs.
53	857	·93320	·49201	310463	2224364	·34721	·78840	6143
54	818	·91268	·43988	275347	1949017	·28982	·76262	5789
55	780	·89216	·38726	243927	1705090	·23175	·73665	5453
56	744	·87164	·33411	215829	1489261	·17297	·71050	5135
57	710	·85112	·28038	190713	1298548	·11346	·68420	4833
58	677	·83060	·22607	168295	1130253	·05317	·65770	4547
59	646	·81009	·17119	148317	981936	·99208	·63098	4275
60	616	·78598	·11563	130506	851430	·93015	·60410	4019
61	596	·77496	·06529	116222	735208	·86641	·57608	3768
62	576	·76034	·01405	103288	631920	·80066	·54695	3523
63	557	·74572	·96182	91584	540336	·73266	·51656	3285
64	538	·73111	·90853	81008	459328	·66212	·48470	3053
65	521	·71650	·85410	71466	387862	·58868	·45108	2825
66	503	·70189	·79844	62870	324992	·51187	·41532	2602
67	487	·68728	·74150	55144	269848	·43112	·37690	2382
68	471	·67267	·68319	48216	221632	·34563	·33511	2163
69	455	·65806	·62342	42017	179615	·25434	·28898	1945
70	440	·64345	·56209	36483	143132	·15574	·23710	1726
71	398	·59973	·46998	29511	113621	·05546	·18521	1532
72	360	·55601	·37449	23686	89935	·95393	·13545	1366
73	325	·51230	·27517	18844	71091	·85181	·08894	1227
74	294	·46859	·17150	14842	56249	·75011	·04720	1115
75	266	·42488	·06291	11599	44690	·65021	·01218	1028
76	Contd.		·99247	9824	·34862	·54235	2·97476	943·5
77			·91566	8235	26627	·42532	·93454	860·1
78			·83164	6786	19841	·29756	.89080	777·7
79			·73942	5488	14353	·15694	·84240	695·7
80			·63778	4343	10010	·00043	·78753	613·1
81			·52534	3352	6658	·82334	.72288	528·3
82			·39412	2478	4180	·62118	·65194	448 7
83			·23963	1736	2444	·38810	·57335	374·4
84			·05597	1138	1306	·11594	·48485	305·4
85			·83508	684	622	·79379	·38359	241·9
86			·56571	368	254	·40483	·26400	183 7
87			·23107	170	84	·92428	·11809	131·2
88			·80416	64	20	·30103	1·92175	83·5
89			·23476	17	3	·47712	·66824	46.6
90			·39911	3(2·5)				

Table No. 31 M.

BENGAL CIVIL FUND.

Married Members only.

Table showing the number who die or become Widowers or survive as married men at each age out of 10,000 *at age* 20.

Age x.	Logarithm of Column 2	Probability of dying or becoming a Widower in a year.	Probability of surviving as married.	Logarithm of Column 3.	Logarithm of living.	Living married.	Die or become Widowers.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
20	2·15506	·0143	·9857	1·99374	4·00000	10000	143
21	·18676	·0154	·9846	·99326	3·99374	9857	152
22	·21846	·0165	·9835	·99277	·98700	9705	160
23	·25016	·0178	·9822	·99220	·97977	9545	170
24	·28186	·0191	·9809	·99162	·97197	9375	179
25	·31356	·0206	·9794	·99096	·96389	9196	190
26	·34526	·0221	·9779	·99029	·95457	9006	199
27	·37696	·0238	·9762	·98954	·94486	8807	209
28	·40866	·0256	·9744	·98874	·93438	8598	220
29	·44036	·0276	·9724	·98784	·92312	8378	232
30	·47208	·0297	·9703	·98691	·91096	8146	242
31	·47005	·0295	·9705	·98700	·89787	7904	233
32	·46801	·0294	·9706	·98704	·88487	7671	225
33	·46597	·0292	·9708	·98713	·87191	7446	218
34	·46393	·0291	·9709	·98717	·85904	7228	210
35	·46189	·0290	·9710	·98722	·84621	7018	204
36	·45985	·0288	·9712	·98731	·83343	6814	196
37	·45781	·0287	·9713	·98735	·82074	6618	190
38	·45577	·0286	·9714	·98740	·80809	6428	183
39	·45373	·0284	·9716	·98749	·79544	6245	178
40	·45169	·0283	·9717	·98753	·78298	6067	172
41	·45401	·0284	·9716	·98749	·77051	5895	167
42	·45633	·0286	·9714	·98740	·75800	5728	164
43	·45865	·0288	·9712	·98731	·74540	5564	160
44	·46097	·0289	·9711	·98726	·73271	5404	156
45	·46329	·0291	·9709	·98717	·71997	5248	153
46	·46561	·0292	·9708	·98713	·70714	5095	149
47	·46793	·0294	·9706	·98704	·69427	4946	145
48	·47025	·0295	·9705	·98700	·68131	4801	142
49	·47257	·0297	·9703	·98691	·66831	4659	138
50	·47491	·0298	·9702	·98686	·65522	4521	135
51	·48401	·0305	·9695	·98655	·64208	4386	134
52	·49312	·0311	·9689	·98628	·62863	4252	132
53	·50222	·0318	·9682	·98597	·61491	4120	131
54	·51133	·0325	·9675	·98565	·60088	3989	129
55	·52043	·0321	·9669	·98538	·58653	3860	128
56	·52954	·0338	·9662	·98507	·57191	3732	126

Table No. 31 M.—(Continued.)

Age x	Logarithm of Column 2.	Probability of dying or becoming a Widower in a year.	Probability of surviving as married.	Logarithm of Column 3.	Logarithm of living.	Living married.	Die or become Widowers.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
57	2·53864	·0346	·9654	1·98471	3·55698	3606	125
58	·54775	·0353	·9647	·98439	·54169	3481	123
59	·55686	·0360	·9640	·98408	·52608	3358	121
60	·56597	·0368	·9632	·98372	·51016	3237	119
61	·57316	·0374	·9626	·98345	·49388	3118	117
62	·58035	·0381	·9619	·98313	·47733	3001	114
63	·58754	·0387	·9613	·98286	·46046	2887	112
64	·59473	·0393	·9607	·98259	·44332	2775	109
65	·60192	·0400	·9600	·98227	·42591	2666	106
66	·60911	·0407	·9593	·98195	·40818	2560	104
67	·61630	·0413	·9587	·98168	·39013	2456	102
68	·62349	·0420	·9580	·98137	·37181	2354	99
69	·63068	·0427	·9573	·98105	·35318	2255	96
70	·63785	·0424	·9566	·98073	·33423	2159	94
71	·70003	·0501	·9499	·97768	·31496	2065	103
72	·76221	·0578	·9422	·97414	·29264	1962	114
73	·82439	·0667	·9333	·97002	·26678	1848	123
74	·88657	·0770	·9230	·96520	·23680	1725	133
75	·94875	·0889	·9111	·95957	·20200	1592	141
76	1·01093	·1025	·8975	·95303	·16157	1451	149
77	·07311	·1183	·8817	·94532	·11460	1302	154
78	·13529	·1365	·8635	·93626	·05992	1148	157
79	·19747	·1576	·8424	·92552	2·99628	991	156
80	·25964	·1818	·8182	·91286	·92170	835	152
81	·23367	·2156	·7844	·89454	·83456	683	147
82	·40771	·2557	·7443	·87175	·72910	536	137
83	·48174	·3032	·6968	·84311	·60085	399	121
84	·55578	·3596	·6404	·80645	·44396	278	100
85	·62981	·4264	·5736	·75861	·25041	178	76
86	·70385	·5057	·4943	·69399	·10902	102	52
87	·77788	·5996	·4004	·60249	1·70301	50	30
88	·85192	·7111	·2889	·46075	·30550	20	14
89	·92596	·8433	·1567	·19507	0·76625	6	5
90	·00000				·96132	1	1

Table No. 32 M.

Bengal Civil Fund.

Married Members D. and N. Columns and Value of Annuity at £5 per cent. at every age during the Married Life of a Member, deduced from Table No. 31 (M.)

Age m.	$\log. l_m v^m = \log. D_m$.	D_m.	$N_m = D_{x+1} D_{x+2} \ldots$	$\log. N_m$.	$\log. \frac{N_m}{D_m}$.	Value of Annuity.
	(1)	(2)	(3)	(4)	(5)	(6)
20	3·57621	3769	49030	4·69046	1·11425	13 009
21	·54876	3538	45492	·65794	·10918	12·858
22	.52084	3318	42174	·62504	·10420	12·712
23	·49242	3108	39066	·59180	·09938	12·571
24	·46343	2907	36159	·55822	·09479	12·439
25	·43386	2716	33443	·52431	·09045	12·315
26	·40363	2533	30910	·49010	·08647	12·203
27	·37273	2359	28551	·45563	·08290	12·103
28	·34108	2193	26358	·42092	·07984	12·018
29	·30863	2035	24323	·38601	·07738	11·950
30	·27528	1885	22438	·35098	·07570	11·904
31	·24100	1742	20696	31589	·07489	11·882
32	·20681	1610	19086	·28072	·07391	11·855
33	·17266	1488	17598	·24546	·07280	11·825
34	·13860	1376	16222	·21010	·07150	11·790
35	·10458	1272	14950	·17464	·07006	11·751
36	·07062	1177	13773	·13903	·06841	11·706
37	·03674	1088	12685	·10329	·06655	11·656
38	·00290	1007	11678	·06737	·06447	11·600
39	2·96911	931·3	10747	·03129	·06218	11·539
40	·93541	861·8	9884·9	3·99497	·05956	11·470
41	·90175	797·5	9087·4	·95841	·05669	11·394
42	·86805	738·0	8349 4	·92165	·05360	11·314
43	·83426	682·8	7666 6	·88461	·05035	11·229
44	·80038	631·5	7035·1	·84727	·04689	11·140
45	·76645	584·0	6451·1	·80964	·04319	11 046
46	·73243	540·1	5911·0	·77166	·03923	10 945
47	·69837	499·3	5411·7	·73334	·03497	10·839
48	·66422	461·5	4950·2	·69463	·03041	10·725
49	·63003	426·6	4523·6	·65548	·02545	10·604
50	·59576	394 2	4129·4	·61588	·02012	10·474
51	·56143	364·3	3765·1	·57577	·01434	10·356
52	·52679	336·3	3428·8	·53514	·00835	10·194
53	·49188	310·4	3118·4	·49394	·00206	10·048
54	·45666	286·2	2832·2	·45212	0·99546	9·896
55	·42112	263·7	2568·5	·40968	·98856	9·740
56	·38531	242·8	2325·7	·36655	·98124	9·577
57	·34919	223·5	2102·2	·32267	·97348	9·408
58	·31271	205·5	1896·7	·27800	·96529	9·232

Table No. 32 M.—(Continued.)

Age m.	$log.\ l_m\ v^m = log.\ D_m$	D_m	$N_m = D_{x+1}\ D_{x+2} \ldots$	$log.\ N_m$	$log.\ \frac{N_m}{D_m}$	Value of Annuity.
	(1)	(2)	(3)	(4)	(5)	(6)
59	2·27591	188·8	1707 9	3·23246	0·95645	9·046
60	·23880	173·3	1534·6	·18600	·94720	8·855
61	·20133	159·0	1375·6	·13849	·93716	8·653
62	·16359	145·7	1229·9	·08987	·92628	8·439
63	·12553	133·5	1096 4	·03997	·91444	8·212
64	·08721	122 2	974·16	2·98863	·90142	7·969
65	·04861	111·8	862·36	·93569	·88708	7·711
66	·00969	102·3	760·06	·88085	·87116	7·433
67	1·97045	93·42	666·64	·82389	·85344	7·136
68	·93094	85·30	581·34	·76443	·83349	6·815
69	.89112	77·82	503·52	·70202	·81090	6·470
70	·85098	70·95	432·57	·63606	·78508	6·098
71	·81052	61·64	367·93	·56577	·75525	5·692
72	·76701	58·48	309·45	·49059	·72358	5·292
73	·71996	52·48	256 97	·40988	·68992	4·897
74	·66879	46·64	210·33	·32290	·65411	4·509
75	·61280	41·01	169·32	·22871	·61591	4·13[illegible]
76	·55118	35·58	133 74	·12626	·57508	3·759
77	·48302	30·41	103·33	·01423	·53121	3·398
78	·40715	25·54	77·792	1·89093	·48378	3·046
79	·32223	21·00	56·792	·75429	·43206	2·704
80	·22656	16·85	39·942	·60143	·37487	2·371
81	·11823	13·13	26·812	·42833	·31010	2·042
82	0·99158	9·808	17·004	·23055	·23897	1·732
83	·84214	6·952	10·052	·00226	·16012	1·446
84	·66406	4·614	5·4379	0 73543	·09137	1·234
85	·44932	2 814	2·6239	·41894	$\bar{1}$·96962	32
86	·18674	1·537	1·0869	·03619	·84945	·707
87	$\bar{1}$·85954	·7237	·3632	$\bar{1}$·56015	·70061	·502
88	·44084	·2760	·0872	$\bar{2}$ 94052	·49968	·316
89	$\bar{2}$·88040	·0759	·0113	·05308	·17268	·149
90	·05428	·0113				

TABLES.

ACTUAL VALUATION TO 30TH APRIL 1863.

INDEX TO TABLES.

Valuation Tables, 30th April 1863.

Tables.

a.—Incumbent pensions under the Old Rules, existing 30th April 1863, valued at 5 per cent.

(1) Widows. (2) Daughters. (3) Sons.

Ditto assigned since 1850.

(4) Widows. (5) Daughters. (6) Sons.

Incumbent pensions under the New Rules.

(9) Widows. (8) Daughters. (9) Sons.

b.—Contingent reversionary pensions valued at 5 per cent.

Of Members on active service.

(10) Widows. (12) Daughters. (14) Sons.

Of Members retired as annuitants.

(11) Wives. (13) Daughters. (15) Sons.

e.—Value at 5 per cent. of contingent benefits to wives and children of bachelors and widowers, living 30th April 1863, if they should marry hereafter.

h.—Members living 30th April 1863, and value of their ordinary annual subscriptions at 2½ per cent. on incomes increasing with age, and of 2 per cent. additional on the incomes of married members for wives, ½ per cent. for sons, and ¼ per cent. for daughters, and double the latter rates for the children of widowers.—(By Table No. 30.)

a

Incumbent Pensions under the Old Rules existing 30th April 1863, valued at 5 per cent.

(1)			(2)			(3)		
Widows.			Daughters.			Sons.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Age.	Pension.	Value.
	£	£		£	£		£	£
82	150	639·8						
75	300	1788·3						
73	195	1273·9	33	97	1218·2			
			48	30	364·6			
72	300	2040·6						
71	266	1873·4						
70	230	1684·5						
...	300	2197·2						
69	263	2000·9						
68	300	2367·9						
...	300	2367·9						
66	300	2538·9	34	100	1266·1			
65	78	682·2	42	26	331·6			
...	12	105·0						
...	256	2239·0	34	85	1076 2			
			31	85	1046·2			
...	300	2623·8						
...	300	2623·8						
64	259	2339·0						
63	300	2793·9	40	100	1289·8			
...	32	298·0	40	11	141·9			
...	300	2793·9						
62	300	2878·2						
...	300	2878·2	38	60	774·2			
61	278	2743·9						
...	269	2655·0				18	67	157·9
..	300	2961·0						
60	300	3042·3						
...	300	3042·3	24	75	799·5			
			22	75	749·5			
...	300	3042·3	23	100	1033·0			
59	300	3119·7	36	97	1243·4			
...	58	603·1	24	84	895·4			
...	300	3119·7	32	100	1244·2			
			30	100	1215·4			
58	300	3194·7	34	100	1266·1			
...	150	1597·4						
57	300	3266·1	22	98	979·3			
56	300	3335·1						

a

Incumbent Pensions under the Old Rules existing 30th April 1863, valued at 5 per cent.—(continued.)

(1)			(2)			(3)		
Widows.			Daughters.			Sons.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Age.	Pension.	Value.
	£	£		£	£		£	£
54	300	3462·6						
53	300	3520·3	32	100	1244·2			
			31	100	1230·8			
...	300	3520·3						
...	300	3520·3						
52	300	3575·4						
...	300	3575·4						
51	300	3627·0	29	100	1197·5			
47	231	2939·7						
...	280	3563·3						
46	300	3864·6	26	58	652·5			
			23	46	475·2			
			18	65	576·2			
			15	65	611·1			
...	300	3864·6						
44	150	1975·8						
...	300	3951·6						
...	300	3951·6	22	100	999.3			
43	70	931·1	21	20	193·0			
			18	20	177·3			
...	275	3658·1						
39	300	4109·7	18	46	407·8			
...	150	2054·9						
...	265	3630·2						
38	300	4128 3	18	97	859·9	16	97	390 6
36	300	4152·9	15	100	940·2			
56	14,417	150328·6	30	2,340	26499·6	2	164	548·5

a

Incumbent Pensions under the Old Rules existing 30th April 1863, valued at 5 per cent.—(continued.)

(1)			(2)			(3)		
WIDOWS.			WITHOUT MOTHERS LIVING.					
			DAUGHTERS.			SONS.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Age.	Pension.	Value.
	£	£		£	£		£	£
			25	86	943·0			
			28	45	529·3			
			25	45	493·4			
			40	100	1289·8			
			36	100	1281·9			
			31	45	553·9			
			42	90	1147·7			
			32	90	1119·8			
			16	100	913·1			
			14	100	974·8			
						17	28	90 0
						16	28	112·8
			44	82	1035·4			
			55	100	1125·0			
			49	95	1143·4			
			40	15	193·5			
			38	15	193·6			
			33	15	188·4			
			18	85	753·5	16	85	342·3
			17	1,208	13879·5	3	141	545·1
Totals, 56	14417	150328·6	48	3,548	40379·1	5	305	1093·6

a

Incumbent Pensions under the Old Rules, assigned since 1850.

(4)			(5)			(6)		
Widows.			Daughters.			Sons.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Age.	Pension.	Value.
	£	£		£	£		£	£
73	200	1306·6						
64	300	2709·3						
			36	100	1281·9			
			26	100	1125·0			
.....	300	2709·3						
62	223	2139·5						
59	173	1799·0						
.....	200	2079·8						
47	300	3817·8						
43	300	3990·6						
Total 8	1996	20551·9	2	200	2406·9			

a

Incumbent Pensions under the New Rules existing 30th April 1863, valued at 5 per cent.

(7)			(8)					(9)		
Widows.			Daughters.					Sons.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Marriage Portion.	Value.	Age.	Pension.	Value.
	£	£		£	£	£	£		£	£
72	300	2003·1								
62	300	2840·7	22	100	986·9	300	121·5			
...	300	2840 7								
58	300	3157·2						20	100	49·
56	300	3297·6	23	100	1020·5	300	114·1	19	100	144·1
			17	100	880·9	300	145·8	15	100	476·3
...	300	3297·6						15	100	476·3
54	300	3425·1								
51	300	3589·5								
...	300	3589·5	15	100	927·8	300	139·5	19	100	144·1
			13	100	1004·0	300	128·0	16	100	399·9
49	300	3684·6	7	60	1160·4	300	91·8	18	100	231·1
			5	60	1147·8	300	81·8	13	100	617·1
								11	100	743·7
...	300	3684·6	26	100	1112·5	300	93·1			
46	300	3827·1	22	100	986 9	300	121·5	7	60	882·8
			20	100	915·8	300	136·6	5	60	900 5
45	300	3872·1	29	100	1185·0	300	74·9			
			23	100	1020·5	300	114·1			
			20	100	915·8	300	136·6			
			19	100	886·3	300	143·0			
44	300	2914·1	18	100	874·1	300	146·1	20	100	49·0
			16	100	900·6	300	143·3	13	100	617·1
			12	100	1048·3	300	121·1			
			10	80	1120·2	300	108·5			
...	300	3914·1	22	100	986·9	300	121·5	20	100	49·0
			18	100	874·1	300	146·1			
...	300	3914·1	24	100	1053·5	300	106·8	17	100	319·2
			23	100	1020·5	300	114·1	11	100	743·7
43	300	3953·1								
...	300	3953·1	6	60	1154·8	300	86·7	14	100	548·5
								12	100	682·1
								9	80	828·0
...	300	3953·1						15	100	476·3
								11	100	743·7
								7	60	882·8
42	300	3981·6	16	100	900·6	300	143·3			
...	300	3981·6	10	80	1120·2	300	108·5	19	100	144·1
...	300	3981·6	20	100	915·8	300	136·6	10	80	792·1
								8	80	861·5
								1	30	794·1

a

Incumbent Pensions under the New Rules existing 30th April 1863, valued at 5 per cent.—(Continued.)

(7)			(8)					(9)		
Widows.			Daughters.					Sons.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Marriage Portion.	Value.	Age.	Pension.	Value.
	£	£		£	£	£	£		£	£
41	300	4020·6	20	100	915·8	300	136·6	17	100	319·2
			19	100	886·3	300	143·0	10	80	792·1
...	300	4020·6								
...	150	2010·3								
...	300	4020·6	9	80	1138·5	300	102·7			
40	150	2024·4								
..	300	4048·8	14	100	962·3	300	134·4	18	100	234·1
			9	80	1138·5	300	102·7	15	100	476·3
...	300	4048·8	15	100	927·8	300	139·5	17	100	319·2
			14	100	962·3	300	134·4	12	100	682·1
			2	30	1032·7	300	66·9	9	80	828·0
								7	60	882·8
38	300	4090·8	17	100	880·9	300	145·8			
			15	100	927·8	300	139·5			
...	300	4090 8	21	100	952·3	300	128 9	6	60	892·7
			10	80	1120·2	300	108·5			
...	150	2045·4								
36	300	4115·4						13	100	617·1
								5	60	900·5
								3	30	862 6
...	300	4115·4	17	100	880·9	300	145·8	13	100	617·1
			15	100	927·8	300	139·5			
35	300	4122·3						12	100	682·1
...	300	4122·3								
34	300	4126·5								
33	300	4127·1	4	30	1122·9	300	76·9	5	60	900·5
								2	30	830·6
...	300	4127·1	8	80	1155·2	300	97·2			
...	150	2063·6								
32	300	4125·6	8	80	1155·2	300	97·2	11	100	743·7
								10	80	792·1
								9	80	828·0
...	300	4125·6						5	60	900·5
								2	30	830·6
								0	30	747·6
31	300	4120·2	11	100	1090 3	300	114·7	7	60	882·8
			9	80	1138·5	300	102·7	5	60	900·5

a

Incumbent Pensions under the New Rules existing 30th April 1863, valued at 5 per cent.—(Continued.)

(7)			(8)					(9)		
WIDOWS.			DAUGHTERS.					SONS.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Marriage portion.	Value.	Age.	Pension.	Value.
29	300	4099·8	6	60	1154·8	300	86·7	5	60	900·5
	...		4	30	1122·9	300	76·9			
	...		3	30	1080·2	300	72·0			
...	300	4099·8	18	100	874·1	300	146·1	17	100	319·2
			16	100	900·6	300	143·3	13	100	617·1
								6	60	892·7
								5	60	900·5
...	300	4099·8	9	80	1138·5	300	102·7			
			8	80	1155·2	300	97·2			
			5	60	1147·8	300	81·8			
			3	30	1080·2	300	72·0			
28	300	4081·8	8	80	1155·2	300	97·2	6	60	892·7
			7	60	1160·4	300	91·8	4	30	890·1
			3	30	1080·2	300	72·0			
26	150	2015·9								
...	300	4031·7	1	30	979·3	300	61·5			
...	150	2015·9								
...	150	2015·9						3	30	862·6
24	300	3969·0						5	60	900·5
								3	30	862·6
...	300	3969 0								
23	300	3931·8								
21	300	3853·8	3	30	1080·2	300	72·0	1	30	794·1
Total, 55	15450	198552·2	59	4880	60546·5	17700	6655·0	61	4730	38894·8

a

Incumbent Pensions under the New Rules existing 30th April 1863, valued at 5 per cent.—(Continued.)

(7)			(8)					(9)		
			WITHOUT MOTHERS LIVING.							
WIDOWS.			DAUGHTERS.					SONS.		
Age last Birthday.	Pension.	Value.	Age.	Pension.	Value.	Marriage portion.	Value.	Age.	Pension.	Value.
				£	£	£	£		£	£
			22	100	986·9	300	121·5			
			20	100	915·8	300	133·6			
			19	100	886·3	300	143·0			
			15	100	927·8	300	139·5			
			21	100	952·3	300	128·9			
			15	100	927·8	300	139·5	10	80	792·1
			13	100	1004·0	300	128·0			
								8	80	861·5
								3	30	862·6
			14	100	962·3	300	134·4			
			13	100	1004·0	300	128·0	5	60	900·5
			12	100	1048·3	300	121·1			
			26	100	1112·5	300	93·1	20	100	49·0
			34	100	1253·7	300	52·7			
			30	100	1202·9	300	69·9			
			20	100	915·8	300	136·6			
			14	1,400	14100·4	4,200	1679·8	5	350	3465·7
Total, 55	15,450	198552·2	73	6,280	74646·9	21,900	8324 8	66	5080	42360·5

b

Value at 5 per cent. of Contingent Pensions of £300 to wives of Members living 30th April 1863, if they survive their husbands, payable quarterly in advance, and reducible to one-half on re-marriage (the husband's age being taken as seven years older than that of the wife.) (*By Table No.* 19.)

Age of Members last birthday.	(10) Active. Number of Members.	(10) Active. Value of Pension.	(11) Retired. Number of Members.	(11) Retired. Value of Pension.	Age of Members last birthday.	(10) Active. Number of Members.	(10) Active. Value of Pension.	(11) Retired. Number of Members.	(11) Retired. Value of Pension.
		£		£			£		£
21	1	1009·9			54	3	3688·5	11	13524·5
22	4	4052·8			55	1	1238·7	9	11148·3
23	3	3054·3			56	1	1247·8	8	9982·4
24	9	9218·7			57			5	6281·5
25	14	14450·8			58	1	1263·9	4	5055·6
26	13	13531·7	2	2081·8	59			3	3811·2
27	9	9450·9			60			6	7660·2
28	15	15892·5			61			2	2566·0
29	6	6413·4			62			2	2576·0
30	18	19411·2			63			3	3874·8
31	11	11964·7			64			2	2589·4
32	10	10960·0			65			1	1297·0
33	12	13240·8			66				
34	12	13322·4			67				
35	15	16741·5	1	1116·1	68			3	3910·5
36	13	14573·0	1	1121·0	69				
37	12	13503·6			70				
38	13	14670·5	1	1128·5	71			1	1318·9
39	15	16965·0			72				
40	11	12456·4			73			1	1223·3
41	13	14732·9	2	2266·6					
42	10	11348·0				288	318630·3	114	139543·3
43	4	4548·0							
44	4	4561·6							
45	5	5722·							
46	5	5745·5	1	1149·1					
47	4	4622·0	3	3466·5					
48	2	2326·8	2	2326·8					
49	2	2346·	3	3519·0					
50	6	7107·	10	11845·0					
51	5	5984·5	10	11969·0					
52	5	6043·5	9	10878·3					
53	1	1219·5	8	9756·0					

b

Value at 5 per cent. of Contingent Pensions of sons with father living, 30th April 1863 (the father's age being taken as 35 years older than the Son's) (By Table No. 23).

Age of Sons' last birthday.	(14) Active.		(15) Retired.		Age of Sons' last birthday.	(14) Active.		(15) Retired.	
	Number of Sons.	Value of Pension.	Number of Sons.	Value of Pension.		Number of Sons.	Value of Pensions.	Number of Sons.	Value of Pension.
		£		£			£		£
0	44	6565·7	3	447·7	12	16	893·6	15	837·8
1	35	5294·5	9	1361·4	13	15	686·1	12	548·9
2	31	4640·4	2	299·4	14	13	485·6	20	747·0
3	25	3641·8	9	1311·0	15	14	389·8	15	417·6
4	27	3761·9	9	1254·0	16	13	261·0	13	261·0
5	29	3798·1	9	1178·7	17	2	26·3	9	118·5
6	21	2548·4	5	606·8	18	4	29·4	15	110·4
7	24	2662·6	13	1442·2	19	7	21·1	8	24·2
8	16	1601·0	7	700·4	20	3	1·9	7	4·5
9	17	1512·7	11	978·8					
10	21	1632·5	9	699·7					
11	17	1131·4	10	665·5		394	41585·8	210	14015·5

b

Value at 5 *per cent. of Contingent Pensions of daughters with fathers living,* 30*th April* 1863 (*the father's age being taken as* 35 *years older than the daughter's) (By Table No.* 24.)

Age of Daughters' last birthday.	(12) Active. Number of Daughters.	(12) Active. Value of Pensions.	(13) Retired. Number of Daughters.	(13) Retired. Value of Pensions.
		£		£
0	53	14646·6	4	1105·4
1	31	8720·3	6	1738·3
2	32	9528·0	8	2382·0
3	35	10573·9	4	1208·4
4	20	6064·6	5	1516·2
5	20	6035.6	6	1810·7
6	21	6269·8	6	1791·4
7	25	7361·3	6	1766·8
8	25	7248·8	4	1159 0
9	16	4556·0	10	2847·5
10	19	5309·2	9	2514·9
11	10	2740·2	10	2740·2
12	16	4305·3	9	2421·7
13	13	3439·8	6	1587·6
14	13	3405·0	10	2619·2
15	8	2101·8	9	2362·2
16	8	2128·7	12	3193·1
17	7	1908·8	9	2454·2
18	8	2276·0	17	4836·5
19	2	604·6	16	4837·1
20	6	1965·2	11	3602·9
21	3	1069·5	9	3208·6
22	2	772·1	9	3474·5
23	1	416·5	3	1249·4
24	2	895·6	6	2686·7
25	1	479·4	3	1438·3
26			4	2046·4
27			2	1088·1
28			2	1152·4
29			1	607·6
30			1	638·4
31				

Age of Daughters' last birthday.	(12) Active. Number of Daughters	(12) Active. Value of Pensions.	(13) Retired. Number of Daughters.	(13) Retired. Value of Pensions.
		£		£
32				
33			1	730·4
34			1	762·0
35				
36				
37			1	857·0
38			1	886·0
39				
40				
41				
42			1	982·9
43				
44				
45			1	1022·1
46			1	1040·7
			1	1058·0
	397	114822·6	225	75424·8

e

Value at 5 per cent. of Contingent Benefits, to Wives and Children of Bachelors and Widowers, living 30th April 1863, if they should marry hereafter.

Age last Birthday.	Total Members.	Married Members.	Bachelors and Widowers.	Value of Benefits to	
				Wives.	Children.
				£	£
20	4		4	2228·1	1553·9
21	12	1	11	6441·5	4485·6
22	24	4	20	12150·6	8436·6
23	33	3	30	18395·1	12696·0
24	43	9	34	21039·2	14431·3
25	24	14	10	6242·8	4255·1
26	36	15	21	13215·7	8952·1
27	41	9	32	20281·9	13657·9
28	33	15	18	11478·2	7686·5
29	14	6	8	5099·5	3396·2
30	29	18	11	6948·4	4602·2
31	11	11			
32	12	10	2	1191·8	780·9
33	18	12	6	3362·3	2190·4
34	14	12	2	1051·6	681·6
35	22	16	6	2956·8	1907·9
36	18	14	4	1847·3	1187·2
37	19	12	7	3032·0	1941·3
38	17	14	3	1220·8	778·9
39	19	15	4	1529·5	972·6
40	14	11	3	1078·0	682·9
41	17	15	2	677·1	427·2
42	12	10	2	639·2	401·5
43	6	4	2	605·0	378·2
44	5	4	1	286·3	178·0
45	6	5	1	272·2	168·3
46	6	6			
47	8	7	1	247·3	151·2
48	5	4	1	233·7	142·1
49	7	5	2	436 2	263·4
50	17	16	1	202·1	121·3
51	18	15	3	556·8	332·2
52	19	14	5	837·2	496·7
53	13	9	4	589·7	348·1
54	18	14	4	502·1	295·0
55	11	10	1	101·6	59·4
56	12	9	3	226·9	132·0
57	6	5	1	53·2	30·8
58	7	5	2	66·0	38·1
59	4	3	1	80·1	46·3
60	7	6	1		
61	3	2	1		
62	2	2			
63	3	3			
64	2	2			
65	1	1			
66					
67	1		1		
68	3	3			
69					
70					
71	1	1			
72					
73	1	1			
74	1		1		
	679	402	277	147404·1	99286·9